

2016

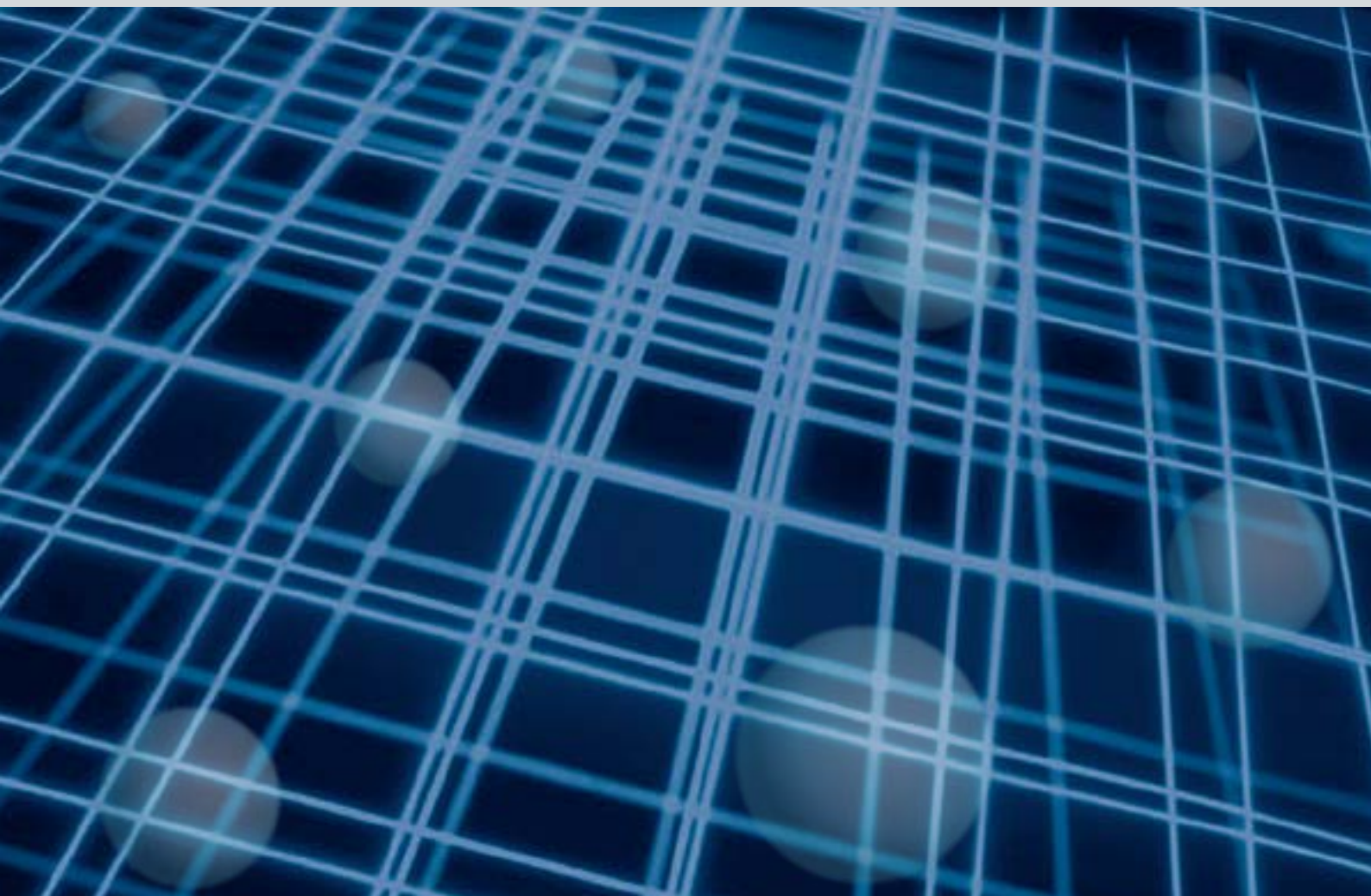
Selection Catalog



Discrete Semiconductors

Small Signal Device

Ver.1.0



Small Signal Devices

Transistors

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MOSFETs

● Quick Reference for Small Signal MOSFET Series

	Drive Voltage (V)	V _{oss} (V)	I _D (A)																			Package		
			0.1 / 0.15		0.2		0.25		0.3/0.31		0.4		0.5		0.6		0.7		1		1.4			
			No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.				
Single Type	0.9	50			RYM002N05 (N)	20																	SOT-723 (VMT3)	
					RE1J002YN (N)	36																SOT-416FL (EMT3F)		
					RU1J002YN (N)	52																	SOT-323FL (UMT3F)	
					RYC002N05 (N)	63																	SOT-23 (SST3)	
	1.2	20	New RV3C002UN(N)	1											New RV3C006BC(P)	4							DFN0604 (VML0604)	
			New RV3C0012P(P)	2																			DFN0806 (VML0806)	
			RV1C002UN (N)	6						New RV1C0012P HC0(P)	9			New RV1C002UN HC0(N)	7								DFN0806 (VML0806)	
			RV1C0012P (P)	8																			DFN1006 (VML1006)	
			New RV2C0012P(P)	14	New RV2C002UN(N)	13													New RV2C010UN (N)	12	New RV2G014GN(N)	19	DFN1006 (VML1006)	
			RUM001L02 (N)	21	RUM002N02 (N)	22										New RZM002P02 HC1(P)	29						SOT-723 (VMT3)	
			RZM001P02 (P)	24	RZM002P02 (P)	25																		SOT-416FL (EMT3F)
			RE1C001UN (N)	33	New RE1C002UN (N)	34										RE1C002UN HC0(N)	35						SOT-323FL (UMT3F)	
			RE1C0012P (P)	39	New RE1C0022P (P)	40										RE1C0022P HC1(P)	41						SOT-23 (SST3)	
			RU1C001UN (N)	50	RU1C002UN (N)	51																	SOT-723 (VMT3)	
			RU1C0012P (P)	54	RU1C0022P (P)	55																	SOT-23 (SST3)	
	50				RUM002N05 (N)	23																SOT-723 (VMT3)		
					RUC002N05 (N)	61																SOT-23 (SST3)		
	1.8	20													New RUM003N02 HC2(N)	28							SOT-723 (VMT3)	
															New RV3C006BC (P)	4							DFN0604 (VML0604)	
																			New RV2C014BC(P)	17			DFN1006 (VML1006)	
																			New RV3E007AJ (N)	3			DFN0604 (VML0604)	
	2.5	30																					DFN0604 (VML0604)	
																							DFN0806 (VML0806)	
																				New RV1E008AJ(N)	10			DFN1006 (VML1006)
																					New RV2E014AJ(N)	15		DFN0604 (VML0604)
		60																					DFN0806 (VML0806)	
																							DFN1006 (VML1006)	
																							DFN0604 (VML0604)	
																							DFN0806 (VML0806)	
Dual Type	0.9	50			EM6K34 (N+N)	43																DFN1006 (VML1006)		
					UM6K34N (N+N)	57																SOT-563 (EMT6)		
			1.2	20	VT6K1 (N+N)	30																		VMT6
					VT6J1 (P+P)	31																		
	VT6M1 (N+P)	32																				SOT-563 (EMT6)		
	50				EM6K7 (N+N)	44																	SOT-363 (UMT6)	
		EM6J1 (P+P)	46																			SOT-563 (EMT6)		
	EM6M2 (N+P)	47																				SOT-363 (UMT6)		
	EM6K33 (N+N)	45																				SOT-563 (EMT6)		
	UM6K33N (N+N)	58																				SOT-363 (UMT6)		
	1.8	20																					SOT-563 (EMT6)	
																							SOT-363 (UMT6)	
	2.5	60																					SOT-563 (EMT6)	
																							SOT-363 (UMT6)	
4	30																					SOT-563 (EMT6)		
																						SOT-363 (UMT6)		

Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively.

☆: Under development

Small Signal MOSFET Series															
Package	Application	No.	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (Ta=25°C)	R _{DS} (on) Typ. (Ω)							Drive Voltage (V)
								V _{GS} (V)							
								0.9	1.2	1.5 (1.8)	2.5	4	4.5	10	
DFN0604 (0604) <VML0604>		1 <i>New</i> RV3C002UN	N	20	0.15	0.1	—	3.8	2.7	2.2	—	1.4	—	1.2	
		2 <i>New</i> RV3C001ZP	P	−20	−0.1	0.1	—	10	6	3.4	—	2.5	—		
		3 <i>New</i> RV3E007AJ	N	30	$\frac{0.7}{(P_{W} \leq 5s)}$	0.5	—	—	—	0.375	—	0.275	—	2.5	
		4 <i>New</i> RV3C006BC	P	−20	$\frac{-0.6}{(P_{W} \leq 5s)}$	0.5	—	—	(0.61)	0.5	—	0.39	—	1.8	
		5 <i>New</i> RV3L004GN	N	60	$\frac{0.4}{(P_{W} \leq 5s)}$	$\frac{0.1}{0.5(P_{W} \leq 5s)}$	—	—	—	—	—	2.5	1.7	4.5	
DFN0806 (0806) <VML0806>		6 RV1C002UN	N	20	0.15	0.1	—	3.8	2.7	1.7	—	1.4	—	1.2	
		7 <i>New</i> RV1C002UN HC0	N	20	$\frac{0.15}{0.5(P_{W} \leq 5s)}$	$\frac{0.1}{0.55(P_{W} \leq 5s)}$	—	3.8	2.7	1.7	—	1.4	—		
		8 RV1C001ZP	P	−20	−0.1	0.1	—	10	6	4.8	3.4	2.5	—		
		9 <i>New</i> RV1C001ZP HC0	P	−20	$\frac{-0.1}{-0.3(P_{W} \leq 5s)}$	$\frac{0.1}{0.55(P_{W} \leq 5s)}$	—	10	6	4.8	3.4	2.5	—		
		10 <i>New</i> RV1E008AJ	N	30	$\frac{0.8}{(P_{W} \leq 5s)}$	$\frac{0.1}{0.55(P_{W} \leq 5s)}$	—	—	—	0.76	—	0.52	—	2.5	
		11 <i>New</i> RV1L004GN	N	60	$\frac{0.4}{(P_{W} \leq 5s)}$	$\frac{0.1}{0.6(P_{W} \leq 5s)}$	—	—	—	—	—	2.5	1.7	4.5	
DFN1006 (1006) <VML1006>		12 <i>New</i> RV2C010UN	N	20	1	0.1	—	0.7	0.54	0.4	—	0.34	—	1.2	
		13 <i>New</i> RV2C002UN	N	20	0.18	0.1	—	3.8	2.7	1.7	—	1.4	—		
		14 <i>New</i> RV2C001ZP	P	−20	−0.1	0.1	—	10	6	3.4	—	2.5	—		
		15 <i>New</i> RV2E014AJ	N	30	$\frac{1.4}{(P_{W} \leq 5s)}$	$\frac{0.6}{(P_{W} \leq 5s)}$	—	—	—	0.2	—	0.17	—	2.5	
		16 <i>New</i> RV2L009GN	N	60	$\frac{0.9}{(P_{W} \leq 5s)}$	$\frac{0.6}{(P_{W} \leq 5s)}$	—	—	—	—	—	0.63	0.46	4.5	
		17 <i>New</i> RV2E012AT	P	−30	$\frac{-1.2}{(P_{W} \leq 5s)}$	$\frac{0.6}{(P_{W} \leq 5s)}$	—	—	—	—	—	0.44	0.32		
		18 <i>New</i> RV2C014BC	P	−20	$\frac{-1.4}{(P_{W} \leq 5s)}$	$\frac{0.6}{(P_{W} \leq 5s)}$	—	—	(0.37)	0.28	—	0.22	—		1.8
		19 <i>New</i> RV2G014GN	N	40	1.4	0.6	—	—	—	—	—	0.25	0.3	4.5	
		SOT-723 (1212) <VMT3>		20 RYM002N05	N	50	0.2	0.15	3	2.2	2	1.7	—	1.6	—
21 RUM001L02	20			0.1		0.15	—	6	4.5	3.8	3	2.5	—	1.2	
22 RUM002N02	20			0.2		0.15	—	1.6	—	0.8	—	—	—		
23 RUM002N05	P			50	0.2	0.15	—	2.4	—	1.7	—	1.6	—		
24 RZM001P02				−20	−0.1	0.15	—	10	6	4.8	3.4	2.5	—		
25 RZM002P02				−20	−0.2	0.15	—	2.4	—	1	—	0.8	—		
26 RSM002N06	N			60	0.25	0.15	—	—	—	3	2.3	2.1	1.7	2.5	
27 RSM002P03	P			−30	−0.2	0.15	—	—	—	—	1.6	1.4	0.9	4	
28 <i>New</i> RUM003N02 HC2	N			20	$\frac{0.67}{(P_{W} \leq 5s)}$	$\frac{0.45}{(P_{W} \leq 5s)}$	—	—	(1.0)	0.8	0.7	—	—	1.8	
29 <i>New</i> RZM002P02 HC1	P	−20	$\frac{-0.61}{(P_{W} \leq 5s)}$	$\frac{0.45}{(P_{W} \leq 5s)}$	—	2.4	1.6	1.0	—	0.8	—	1.2			
VMT6 (1212)	Switching	30 VT6K1	N+N	20	0.1	0.15	—	6	4.5	3.8	3	2.5	—	1.2	
		31 VT6J1	P+P	−20	−0.1	0.15	—	10	6	4.8	3.4	2.5	—		
		32 VT6M1	N	20	0.1	0.15	—	6	4.5	3.8	3	2.5	—		
			P	−20	−0.1	0.15	—	10	6	4.8	3.4	2.5	—		
SOT-416FL (1616) (SC-89) <EMT3F>		33 RE1C001UN	N	20	0.1	0.15	—	6	4.5	3.8	3	2.5	—	1.2	
		34 <i>New</i> RE1C002UN		20	0.2	0.15	—	1.6	—	0.8	—	—	—		
		35 RE1C002UN HC0		20	$\frac{0.65}{(P_{W} \leq 5s)}$	$\frac{0.5}{(P_{W} \leq 5s)}$	—	1.6	—	0.8	—	—	—		
		36 RE1J002YN		50	0.2	0.15	3	2.2	2	1.7	—	1.6	—	0.9	
		37 <i>New</i> RE1L002SN		60	0.25	0.2	—	—	—	3	2.3	2.1	1.7	2.5	
		38 RE1L002SN HC1	P	60	$\frac{0.46}{(P_{W} \leq 5s)}$	$\frac{0.5}{(P_{W} \leq 5s)}$	—	—	—	3.0	2.3	2.1	—	2.5	
		39 RE1C001ZP		−20	−0.1	0.15	—	10	6	4.8	3.4	2.5	—	1.2	
		40 <i>New</i> RE1C002ZP		−20	−0.2	0.15	—	2.4	—	1	—	0.8	—		
		41 RE1C002ZP HC1		−20	$\frac{0.65}{(P_{W} \leq 5s)}$	$\frac{0.5}{(P_{W} \leq 5s)}$	—	2.4	—	1	—	0.8	—		
42 RE1E002SP	N+N	−30	−0.2	0.15	—	—	—	—	1.6	1.4	0.9	4			
43 EM6K34		50	0.2	0.15	3	2.2	2	1.7	—	1.6	—	0.9			
44 EM6K7		20	0.2	0.15	—	1.6	—	0.8	—	—	—	1.2			
45 EM6K33		50	0.2	0.15	—	2.4	—	1.7	—	1.6	—				
46 EM6J1		P+P	−20	−0.2	0.15	—	2.4	—	1	—	0.8		—		
47 EM6M2		N	20	0.2	0.15	—	1.6	—	0.8	0.7	—		—		
48 EM6K6		N+N	P	−20	−0.2	0.15	—	2.4	—	1	—	0.8	—	1.8	
49 EM6K31	20		0.3	0.15	—	—	(1)	0.8	0.7	—	—				
SOT-323FL (2021) (SC-85) <UMT3F>		50 RU1C001UN	N	60	0.25	0.15	—	—	—	3	2.3	2.1	1.7	2.5	
		51 RU1C002UN		20	0.1	0.2	—	6	4.5	3.8	3	2.5	—	1.2	
		52 RU1J002YN		20	0.2	0.2	—	1.6	—	0.8	—	—	—	0.9	
		53 RU1L002SN		50	0.2	0.2	3	2.2	2	1.7	—	1.6	—		
		54 RU1C001ZP	P	60	0.25	0.2	—	—	—	3	2.3	2.1	1.7	2.5	
		55 RU1C001ZP		−20	−0.1	0.15	—	10	6	4.8	3.4	2.5	—	1.2	
		56 RU1C002ZP		−20	−0.2	0.15	—	2.4	—	1	—	0.8	—		
56 RU1E002SP	−30	−0.2	0.2	—	—	—	—	1.6	1.4	0.9	4				
SOT-363 (2021) (SC-88) <UMT6>		57 UM6K34N	N+N	50	0.2	0.15	3	2.2	2	1.7	—	1.6	—	0.9	
		58 UM6K33N		50	0.2	0.15	—	2.4	—	1.7	—	1.6	—	1.2	
		59 UM6K31N		60	0.25	0.15	—	—	—	3	2.3	2.1	1.7	2.5	
		60 UM6J1N		P+P	−30	−0.2	0.15	—	—	—	—	1.6	1.4	0.9	4
SOT-23 (2924) <SST3>		61 RUC002N05	N	50	0.2	0.2	—	2.4	—	1.7	—	1.6	—	1.2	
		62 RK7002BM*		60	0.25	0.2	—	—	—	3	2.3	2.1	1.7	2.5	
		63 RYC002N05		50	0.2	0.2	3	2.2	2	1.7	—	1.6	—	0.9	
		64 RSC002P03		P	−30	−0.2	0.2	—	—	—	—	1.6	1.4	0.9	4

*Automotive grade available ☆Under development

MOSFETs

●Quick Reference for Small Size Power Type MOSFET Series 1

Single Type	Drive Voltage (V)	V _{oss} (V)	I _o (A)															Package										
			0.4 to 1.6		No.	2 / 2.5		No.	3 / 3.5		No.	4 / 4.5		No.	5 / 5.5		No.		6 / 6.5		No.	7 / 7.5		No.	9 to 15		No.	
	1.5	12	RW1A013ZP (P)	6	RW1A020ZP (P) RW1A025AP (P)	5 4	RW1A030AP (P)	3																		SOT-563T (WEMT6)		
			RZF013P01 (P)	16	RZF020P01 (P)	15	RZF030P01 (P)	14	RAF040P01 (P)	13																SOT-323T (TUMT3)		
					RAL025P01 (P)	28	RAL035P01 (P)	27	RAL045P01 (P)	26																SOT-363T (TUMT6)		
									RT1A045AP (P)	48	RT1A050ZP (P)	47	RT1A060AP (P)	46												TSST8		
					RZR020P01 (P) RZR025P01 (P)	66 65			RZR040P01 (P)	64																	SOT-346T (TSMT3)	
									RAQ045P01 (P)	89	RZQ050P01 (P)	88															SOT-457T (TSMT6)	
		20	RW1C015UN (N)	2	RW1C020UN (N) RW1C025ZP (P)	1 7																					SOT-563T (WEMT6)	
					RUF020N02 (N) RUF025N02 (N)	12 11																					SOT-323T (TUMT3)	
							RUL035N02 (N)	25																			SOT-363T (TUMT6)	
																RT1C060UN (N)	41									TSST8		
					RUR020N02 (N)	61			RUR040N02 (N)	60																	SOT-346T (TSMT3)	
											New RQ6C050UN (N)	87															SOT-457T (TSMT6)	
	1.8	20	RUF015N02 (N)	17																							SOT-323T (TUMT3)	
			☆RF1E015AJ (N)	19	RTF025N03 (N)	18																					SOT-323T (TUMT3)	
							RTL035N03 (N)	32	☆RF6E045AJ (N)	33																SOT-363T (TUMT6)		
					RTR025N03 (N)	68	☆RQ5E030AJ (N)	63	☆RQ5E040AJ (N) RTR040N03 (N)	62 67																	SOT-346T (TSMT3)	
					RTQ020N03 (N)	93	RTQ035N03 (N)	92	RTQ045N03 (N)	91																	SOT-457T (TSMT6)	
			RTF016N05 (N)	20																							SOT-323T (TUMT3)	
		45			RTR020N05 (N) RTR025N05 (N)	72 71	RTR030N05 (N)	70																			SOT-346T (TSMT3)	
					RTQ020N05 (N)	96																					SOT-457T (TSMT6)	
			30	RW1E014SN (N) RW1E015RP (P)	8 10	RW1E025RP (P)	9																					SOT-563T (WEMT6)
				RSF014N03 (N) RRF015P03 (P)	21 23																							TUMT3
						RRL025P03 (P)	37	RRL035P03 (P)	36																			TUMT6
				RRR015P03 (P)	80	RSR025N03 (N)	74	RRR030P03 (P) RXR035N03 (N)	79 73	RRR040P03 (P)	78																	SOT-346T (TSMT3)
				RSQ020N03 (N) ☆RRQ020P03 (P)	102 107	RRQ030P03 (P)	106	RXQ040N03 (N) RSQ045N03 (N) RRQ045P03 (P)	100 101 105																	SOT-457T (TSMT6)		
								RT1E040RP (P)	50	RT1E050RP (P)	49	RT1E060XN (N)	42													TSST8		
	4	30																										
		45	RSF010P05 (P)	24																							SOT-323T (TUMT3)	
					New RQ5H020SP (P) RSR025N05 (N)	83 75																					SOT-346T (TSMT3)	
	60	RSF015N06 (N)	22																								SOT-457T (TSMT6)	
New RQ5L015SP (P)		84	RSR020N06 (N)	77	RSR030N06 (N)	76																			SOT-346T (TSMT3)			
RSQ015N06 (N)		104																							SOT-457T (TSMT6)			
RSR010N10 (N)		85																							SOT-346T (TSMT3)			
New RQ6P015SP (P)		111																							SOT-457T (TSMT6)			
4.5	30			☆RQ5E025AT (P)	82	New RQ5E035BN (N) New RQ5E035AT (P)	69 81																			SOT-346T (TSMT3)		
						☆RQ6E030AT (P) New RQ6E035AT (P)	110 109	New RQ6E045BN (N)	95	☆RQ6E055BN(P) New RQ6E050AT (P)	94 108													SOT-457T (TSMT6)				
																										TSMT8		

Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively.

☆:Under development

Quick Reference for Small Size Power Type MOSFET Series 2

Dual Type	Drive Voltage (V)	V _{DSS} (V)	I _D (A)															Package									
			0.5 to 1.6		No.	2 / 2.5		No.	3 / 3.5		No.	4 / 4.5		No.	5 / 5.5		No.		6 / 6.5		No.	7 / 7.5		No.	8 / 8.5		No.
1.5	12	US6J11 (P+P)	30	US6J12 (P+P)	29																				SOT-363T (TUMT6)		
				TT8J13 (P+P)	52	TT8J11 (P+P)	51																		TSST8		
				QS6J11 (P+P)	90																					SOT-457T (TSMT6)	
						QS8J11 (P+P)	118	QS8J2 (P+P) QS8J12 (P+P)	119 117	QS8J13 (P+P)	116															TSMT8	
	20			TT8K1 (N+N) TT8J21 (P+P) TT8M1 (N+P) TT8M3 (N+P)	43 53 54 55																				TSST8		
		12 / 20	US6M11 (N+P)	40																						SOT-363T (TUMT6)	
	1.5 / 2.5	20 / 30			TT8M2 (N+P)	56																			TSST8		
	1.8	20	US6K4 (N+N)	31																					SOT-363T (TUMT6)		
	2.5	20 / 30	US6M2 (N+P)	35																						SOT-457T (TSMT6)	
			QS6M4 (N+P)	99																						SOT-457T (TSMT6)	
		30	QS6K1 (N+N)	97																						SOT-363T (TUMT6)	
						QS8K2 (N+N)	132																			TSMT8	
			US6K1 (N+N)	34																						SOT-363T (TUMT6)	
					TT8K2 (N+N)	44																				TSST8	
				QS5K2 (N+N)	86																				SOT-25T (TSMT5)		
		45	QS6K21 (N+N)	98																					SOT-457T (TSMT6)		
	4	30	US6M1 (N+P) US6K2 (N+N)	39 38																						SOT-363T (TUMT6)	
					TT8J2 (P+P) TT8J3 (P+P)	58 59	TT8K11 (N+N)	45																	TSST8		
					TT8M11 (N+P)		57																			TSMT8	
							QS8K11 (N+N)	127	QS8J4 (P+P) QS8K12 (N+N)	124 126	QS8J5 (P+P)	123	QS8K13 (N+N)	125													
							QS8M12 (N+P)		138																		
		45						QS8K21 (N+N)	130																		
		60			QS8M31 (N+P)		142																				
		100			QS8K51 (N+N)	131																					
					QS8M51 (N+P)		143																				
	4.5	30					☆QH8KA1 (N+N)	129	QH8MA2 (N+P)	141	☆QH8KA2 (N+N)	128	☆QH8MA3 (N+P)	140	☆QH8MA4 (N+P)	139									TSMT8		

Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively.

☆:Under development

MOSFETs

Small Size Power Type MOSFET Series 1															
Package	Application	No.	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (T _a =25°C)	R _{DS} (on)Typ. (mΩ)					Q _g (nC) (V _{GS} =4.5V)	Drive Voltage (V)	
								V _{GS} (V)							
								1.5	2.5	4	4.5	10			
SOT-563T (1616) (WEMT6)		1	RW1C020UN	N	20	2.0	0.7	170	95	—	75	—	2.0	1.5	
		2	RW1C015UN		20	1.5	0.7	300	170	—	130	—	1.8		
		3	RW1A030AP	P	-12	-3.0	0.7	75	40	—	30	—	22.0		
		4	RW1A025AP		-12	-2.5	0.7	90	55	—	44	—	16.0		
		5	RW1A020ZP		-12	-2.0	0.7	200	105	—	75	—	6.5		
		6	RW1A013ZP		-12	-1.3	0.7	530	280	—	190	—	2.4		
		7	RW1C025ZP	N	-20	-2.5	0.7	120	65	—	48	—	21.0		
		8	RW1E014SN		30	1.4	0.7	—	—	270	250	170	1.4 ²		
		9	RW1E025RP		-30	-2.5	0.7	—	—	95	85	55	5.2 ²		
		10	RW1E015RP	P	-30	-1.5	0.7	—	—	190	170	115	3.2 ²		
SOT-323T (2021) (TUMT3)		11	RUF025N02	N	20	2.5	0.8	80	49	—	39	—	5.0	1.5	
		12	RUF020N02		20	2.0	0.8	170	95	—	75	—	2.0		
		13	RAF040P01	P	-12	-4.0	0.8	40	27	—	22	—	37.0		
		14	RZF030P01		-12	-3.0	0.8	72	39	—	28	—	18.0		
		15	RZF020P01		-12	-2.0	0.8	200	105	—	75	—	6.5		
		16	RZF013P01		-12	-1.3	0.8	530	280	—	190	—	2.4		
		17	RUF015N02	N	20	1.5	0.8	220 ^{*1}	170	—	130	—	1.8		
		18	RTF025N03		30	2.5	0.8	—	70	50	48	—	3.7		
		19	☆RF1E015AJ		30	1.5	0.8	—	240	—	170	—	0.7		
		20	RTF016N05	P	45	1.6	0.8	—	200	150	140	—	2.3		
		21	RSF014N03		30	1.4	0.8	—	—	270	250	170	1.4 ²		
		22	RSF015N06		60	1.5	0.8	—	—	255	240	210	2.0 ²		
		23	RRF015P03		-30	-1.5	0.8	—	—	190	170	115	3.2 ²		
		24	RSF010P05	P	-45	-1.0	0.8	—	—	490	450	325	2.4 ²		
SOT-363T (2021) (TUMT6)		25	RUL035N02	N	20	3.5	1.0	66	38	—	31	—	5.7	1.5	
		26	RAL045P01		-12	-4.5	1.0	50	28	—	22	—	40.0		
		27	RAL035P01	P	-12	-3.5	1.0	75	40	—	30	—	22.0		
		28	RAL025P01		-12	-2.5	1.0	90	55	—	44	—	16.0		
		29	US6J12	P+P	-12	-2.0	1.0	200	105	—	75	—	7.6		
		30	US6J11		-12	-1.3	1.0	530	280	—	190	—	2.4		
		31	US6K4	N+N	20	1.5	1.0	220 ^{*1}	170	—	130	—	1.8	1.8	
		32	RTL035N03	N	30	3.5	1.0	—	56	42	40	—	4.6		
		33	☆RF6E045AJ		30	4.5	1.0	—	21	—	15	—	5.3		
		34	US6K1	N+N	30	1.5	1.0	—	240	180	170	—	1.6	2.5	
		35	US6M2	N	30	1.5	1.0	—	240	180	170	—	1.6		
		36	US6M2		P	-20	-1.0	1.0	—	570	310	280	—		2.1
		37	RRL035P03	P	-30	-3.5	1.0	—	—	60	55	40	8.0 ²	4	
		38	RRL025P03		-30	-2.5	1.0	—	—	95	85	55	5.2 ²		
		39	US6K2	N+N	30	1.4	1.0	—	—	270	250	170	1.4 ²		
		40	US6M1	N	30	1.4	1.0	—	—	270	250	170	1.4 ²	2.5	
		41	US6M1		P	-20	-1.0	1.0	—	570	310	280	—		2.1
		42	US6M11	N	20	1.5	1.0	300	170	—	130	—	1.8	1.5	
		43	US6M11		P	-12	-1.3	1.0	530	280	—	190	—		2.4
TSST8 (3019)		44	RT1C060UN	N	20	6.0	1.25	33	24	—	20	—	11.0	4	
		45	RT1E060XN		30	6.0	1.25	—	—	23	21	16	6.8 ²		
		46	TT8K1	N+N	20	2.5	1.25	100	65	—	52	—	3.6	1.5	
		47	TT8K2		30	2.5	1.25	—	95	70	65	—	3.2	2.5	
		48	TT8K11		30	3.0	1.25	—	—	78	67	51	2.5 ²	4	
		49	RT1A060AP		-12	-6.0	1.25	27	17	—	14	—	80.0	1.5	
		50	RT1A050ZP	P	-12	-5.0	1.25	48	26	—	19	—	34.0		
		51	RT1A045AP		-12	-4.5	1.25	50	28	—	22	—	40.0		
		52	RT1E050RP		-30	-5.0	1.25	—	—	40	36	26	13.0 ²		
		53	RT1E040RP		-30	-4.0	1.25	—	—	52	45	32	10.5		
		54	TT8J11		-12	-3.5	1.25	75	41	—	31	—	22.0		
		55	TT8J13	P+P	-12	-2.5	1.25	90	55	—	44	—	16.0	1.5	
		56	TT8J21		-20	-2.5	1.25	140	68	—	49	—	12.0		
		57	TT8M1		N	20	2.5	1.25	100	65	—	52	—		3.6
		58	TT8M1			P	-20	-2.5	1.25	140	68	—	49		—
		59	TT8M3	N	20	2.5	1.25	100	65	—	52	—	3.6	2.5	
		60	TT8M2		P	-20	-2.4	1.25	180	105	—	80	—		6.7
		61	TT8M2	N	30	2.5	1.25	—	95	70	65	—	3.2	1.5	
		62	TT8M2		P	-20	-2.5	1.25	140	68	—	49	—		12.0
63	TT8M11	N	30	3.0	1.25	—	—	78	67	51	2.5 ²	4			
64	TT8J2		P	-30	-2.5	1.25	—	—	115	95	60		4.8 ²		
65	TT8J3			-30	-2.5	1.25	—	—	115	95	60		4.8 ²		
66	TT8J3	P+P	-30	-2.5	1.25	—	—	120	100	65	4.8 ²				

*1 :V_{GS}=1.8V *2 :V_{GS}=5V

☆:Under development

Small Size Power Type MOSFET Series 2

Package	Application	No.	Part No.	Polarity (ch)	V _{DS} (V)	I _D (A)	P _D (W) (T _a =25°C)	R _{DS} (on) Typ. (mΩ)					Q _g (nC) (V _{GS} =4.5V)	Drive Voltage (V)	
								V _{GS} (V)							
								1.5	2.5	4	4.5	10			
SOT-346T (2928) (SC-96) (TSMT3) 	Load switch Switching	60	RUR040N02	N	20	4.0	1.00	55	33	—	25	—	8.0	1.5	
		61	RUR020N02		20	2.0	1.00	170	95	—	75	—	2.0	2.5	
		62	☆RQ5E040AJ		30	4.0	1.00	—	39	—	27	—	2.9		1.5
		63	☆RQ5E030AJ	30	3.0	1.00	—	77	—	59	—	2.2	2.5		
		64	RZR040P01	P	-12	-4.0	1.00	55	30	—	22	—		30.0	
		65	RZR025P01		-12	-2.5	1.00	110	60	—	44	—		13.0	2.5
		66	RZR020P01		-12	-2.0	1.00	200	105	—	75	—	6.5	4	
		67	RTR040N03	30	4.0	1.00	—	47	36	34	—	5.9	2.5		
		68	RTR025N03	30	2.5	1.00	—	95	70	66	—	3.3		4.5	
		69	New RQ5E035BN	30	3.5	1.00	—	—	—	46	38	1.5	2.5		
		70	RTR030N05	45	3.0	1.00	—	68	53	48	—	6.2		4	
		71	RTR025N05	45	2.5	1.00	—	125	100	95	—	3.2	2.5		
		72	RTR020N05	N	45	2.0	1.00	—	180	135	130	—		2.9	4
		73	RXR035N03		30	3.5	1.00	—	—	50	45	35	3.3*	4.5	
		74	RSR025N03		30	2.5	1.00	—	—	83	74	50	2.9*		2.5
		75	RSR025N05	45	2.5	1.00	—	—	105	95	70	3.6	4		
		76	RSR030N06	60	3.0	1.00	—	—	75	70	60	5.0*		4.5	
		77	RSR020N06	60	2.0	1.00	—	—	150	140	120	2.7*	2.5		
		78	RRR040P03	-30	-4.0	1.00	—	—	52	45	32	10.5*		4	
		79	RRR030P03	-30	-3.0	1.00	—	—	95	85	55	5.2*	4.5		
		80	RRR015P03	P	-30	-1.5	1.00	—	—	190	170	115		3.2*	2.5
		81	New RQ5E035AT		-30	-3.5	1.00	—	—	—	54	38	5.2	4	
		82	☆RQ5E025AT		-30	-2.5	1.00	—	—	—	116	76	2.5		2.5
		83	New RQ5H020SP	-45	-2.0	1.00	—	—	200	180	130	5.0	4.5		
		84	New RQ5L015SP	-60	-1.5	1.00	—	—	255	240	200	5.0		2.5	
		85	RSR010N10	N	100	1.0	1.00	—	—	470	460	440	34.0*		4
SOT-25T (2928) (TSMT5) 		86	QS5K2	N+N	30	2.0	1.25	—	110	76	71	—	2.8	2.5	
SOT-457T (2928) (SC-95) (TSMT6) 		87	New RQ6C050UN	N	20	5.0	1.25	40	27	—	22	—	12.0	1.5	
		88	RZQ050P01	P	-12	-5.0	1.25	44	26	—	19	—	35.0		2.5
		89	RAQ045P01	P+P	-12	-4.5	1.25	50	28	—	22	—	40.0		
		90	QS6J11		-12	-2.0	1.25	200	105	—	75	—	6.5	2.5	
		91	RTQ045N03		30	4.5	1.25	—	42	32	30	—	7.6		4.5
		92	RTQ035N03	N	30	3.5	1.25	—	55	40	38	—	4.6	2.5	
		93	RTQ020N03		30	2.0	1.25	—	138	94	89	—	2.4		4.5
		94	☆RQ6E055BN		30	5.5	1.25	—	—	—	30	19	4.4	2.5	
		95	New RQ6E045BN	30	4.5	1.25	—	—	—	35	21	4.7	4		
		96	RTQ020N05	45	2.0	1.25	—	200	150	140	—	2.3		2.5	
		97	QS6K1	30	1.0	1.25	—	260	180	170	—	1.7	4.5		
		98	QS6K21	N+N	45	1.0	1.25	—	415	—	310	300		1.5	2.5
		99	QS6M4	N	30	1.5	1.25	—	260	180	170	—	1.6	4	
		100	RXQ040N03	P	-20	-1.5	1.25	—	310	170	155	—	3.0		4.5
		101	RSQ045N03	N	30	4.0	1.25	—	—	50	45	35	3.3*	2.5	
		102	RSQ020N03		30	4.5	1.25	—	—	40	36	27	6.8*		4.5
		103	RVQ040N05		30	2.0	1.25	—	—	168	148	96	2.2*	2.5	
		104	RSQ015N06	45	4.0	1.25	—	—	53	47	38	6.3	4		
		105	RRQ045P03	60	1.5	1.25	—	—	255	240	210	2.0*		4.5	
		106	RRQ030P03	-30	-4.5	1.25	—	—	38	34	25	14.0*	2.5		
		107	☆RRQ020P03	P	-30	-3.0	1.25	—	—	95	85	55		5.2*	4.5
		108	New RQ6E050AT		-30	-2.0	1.25	—	—	190	170	115	3.2*	4	
		109	New RQ6E035AT	-30	-5.0	1.25	—	—	—	30	20	10.0	2.5		
		110	☆RQ6E030AT	-30	-3.5	1.25	—	—	—	54	38	5.2		4.5	
		111	New RQ6P015SP	-30	-3.0	1.25	—	—	—	116	76	2.5	2.5		
				-100	-1.5	1.25	—	—	400	380	350	17.0*		4	

* :V_{GS}=5V

☆:Under development

MOSFETs

Small Size Power Type MOSFET Series 3															
Package	Application	No.	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (T _a =25°C)	R _{DS} (on)Typ. (mΩ)					Q _S (nC) (V _{GS} =4.5V)	Drive Voltage (V)	
								V _{GS} (V)							
								1.5	2.5	4	4.5	10			
TSMT8 (3028)	 Load switch Switching Motor Drive	112	RQ1C075UN	N	20	7.5	1.5	20	14	—	11.0	—	18.0	1.5	
		113	RQ1C065UN		20	6.5	1.5	29	19	—	16.0	—	11.0		
		114	RQ1A070ZP	P	-12	-7.0	1.5	19	11	—	8.0	—	58.0		
		115	RQ1A060ZP		-12	-6.0	1.5	39	22	—	16.0	—	34.0		
		116	QS8J13	P+P	-12	-5.5	1.5	29	19	—	15.0	—	60.0		
		117	QS8J12		-12	-4.5	1.5	49	27	—	21.0	—	40.0		
		118	QS8J11		-12	-3.5	1.5	75	41	—	31.0	—	22.0		
		119	QS8J2		-12	-4.0	1.5	66	36	—	26.0	—	20.0		
		120	RQ1E100XN	N	30	10.0	1.5	—	—	10	9.5	7.5	12.7	4.0	
		121	RQ1A070AP	P	-12	-7.0	1.5	24	13	—	10.0	—	80.0	1.5	
		122	RQ1E075XN	N	30	7.5	1.5	—	—	19	17.0	12.0	6.8	4.0	
		123	QS8J5	P+P	-30	-5.0	1.5	—	—	45	40.0	28.0	10.0	4.0	
		124	QS8J4		-30	-4.0	1.5	—	—	60	55.0	40.0	8.4		
		125	QS8K13	N+N	30	6.0	1.5	—	—	28	25.0	20.0	5.5	4.0	
		126	QS8K12		30	4.0	1.5	—	—	45	40.0	30.0	3.4		
		127	QS8K11		30	3.5	1.5	—	—	50	45.0	35.0	3.3		
		128	☆QH8KA2		30	5.0	1.5	—	—	—	40.0	25.0	2.0		
		129	☆QH8KA1		30	3.0	1.5	—	—	—	86.0	56.0	1.5	4.5	
		130	QS8K21		45	4.0	1.5	—	—	53	48.0	38.0	5.4		
		131	QS8K51		100	2.0	1.5	—	—	260	250.0	240.0	4.7	4.0	
		132	QS8K2		30	3.5	1.5	—	—	55	40	38.0	—	4.6	2.5
		133	☆QH8KA4		30	8.0	1.5	—	17	—	13.0	—	6.2		
		134	RQ1E050RP	P	-30	-5.0	1.5	—	—	36	32.0	22.0	13.0	4.0	
		135	RQ1E070RP		-30	-7.0	1.5	—	—	19	17.0	12.0	26.0		
		136	☆RQ7E055AT		-30	-5.5	1.5	—	—	—	30.0	20.0	10.0		
		137	QS8M13	N	30	6.0	1.5	—	—	28	25.0	20.0	5.5	4.0	
				P	-30	-5.0	1.5	—	—	45	40.0	28.0	10.0		
		138	QS8M12	N	30	4.0	1.5	—	—	45	40.0	30.0	3.4		
				P	-30	-3.5	1.5	—	—	60	55.0	40.0	8.4		
		139	☆QH8MA4	N	30	9.0	1.5	—	—	—	18.0	12.0	2.0	4.5	
				P	-30	-7.5	1.5	—	—	—	30.0	20.0	4.3		
		140	☆QH8MA3	N	30	6.0	1.5	—	—	—	34.2	28.6	2.0		
				P	-30	-5.5	1.5	—	—	—	60.0	40.0	3.7		
		141	QH8MA2	N	30	4.5	1.5	—	—	—	35.0	21.0	4.7	4.0	
				P	-30	-3.0	1.5	—	—	—	80.0	55.0	4.3		
		142	QS8M31	N	60	3.0	1.5	—	—	98	93.0	80.0	4.0		
				P	-60	-2.0	1.5	—	—	190	180.0	150.0	7.2		
		143	QS8M51	N	100	2.0	1.5	—	—	260	250.0	240.0	4.6	4.0	
				P	-100	-1.5	1.5	—	—	400	380.0	350.0	17.0		

*: V_{GS}=5V

☆: Under development

●Quick Reference for Multiple Schottky Barrier Diodes Small Size Power Type MOSFET Series

<Small Size Power Type Package>

	Drive Voltage (V)	V _{DSS} (V)	I _D (A)										Package
			0.7	No.	1	No.	1.3 / 1.4 / 1.5	No.	2	No.	2.4 / 2.5	No.	
Built-in Diode	1.5	12					ES6U1(P)	3					SOT-563T (1616) (WEMT6)
		20					ES6U2(N)	1					SOT-563T (1616) (WEMT6)
										TT8U1(P) TT8U2(P)	13 14		TSST8
										QS5U36(N)	15		SOT-25T (2928) (TSM5)
	1.8	20					QS5U34(N)	16					SOT-25T (2928) (TSM5)
	2.5	20			ES6U42(P)	5							SOT-563T (1616) (WEMT6)
					US5U30(P) US5U38(P)	8 9							TUMT5
							QS5U21(P) QS5U23(P) QS5U26(P) QS5U27(P)	23 25 22 24					SOT-25T (2928) (TSM5)
									QS5U28(P)	21			
		30					QS6U22(P)	27					SOT-457T (2928) (SC-95) (TSM6)
							ES6U41(N)	4					SOT-563T (1616) (WEMT6)
							US5U1(N) US5U3(N)	6 7					TUMT5
							US6U37(N)	12					SOT-363T (2021) (TUMT6)
									QS5U12(N) QS5U13(N) QS5U16(N) QS5U17(N)	19 17 18 20			SOT-25T (2928) (TSM5)
		4					ES6U3(N)	2					SOT-563T (1616) (WEMT6)
							US5U2(N)	10					TUMT5
									QS5U33(P)	26			SOT-25T (2928) (TSM5)
							QS6U24(P)	28					SOT-457T (2928) (SC-95) (TSM6)
		45					US5U35(P)	11					TUMT5

Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively.

Multiple Schottky Barrier Diodes Small Size Power Type MOSFET Series

Package	Application	No.	Part No.	Polarity (ch)	V _{DS} (V)	I _D (A)	P _D (W) (T _a =25°C)	R _{DS(on)} Typ. (mΩ)					Q _g (nC) (V _{GS} =4.5V)	Drive Voltage (V)
								V _{GS} (V)						
								1.5	2.5	4	4.5	10		
SOT-563T (1616) (WEMT6)	Load switch Switching	1	ES6U2	N+SBD(0.5A)	20	1.5	0.8	300	170	—	130	—	1.8	1.5
		2	ES6U3	N+SBD(0.5A)	30	1.4	0.8	—	—	270	250	170	1.4 ¹⁾	4.0
		3	ES6U1	P+SBD(0.5A)	-12	-1.3	0.8	530	280	—	190	—	2.4	1.5
		4	ES6U41	N+SBD(0.5A)	30	1.5	0.8	—	240	180	170	—	1.6	2.5
		5	ES6U42	P+SBD(0.5A)	-20	-1.0	0.8	—	570	310	280	—	2.1	
TUMT5 (2021)		6	US5U1	N+SBD(0.5A)	30	1.5	1.0	—	240	180	170	—	1.6	2.5
		7	US5U3	N+SBD(0.7A)	30	1.5	1.0	—	240	180	170	—	1.6	
		8	US5U30	P+SBD(0.5A)	-20	-1.0	1.0	—	570	310	280	—	2.1	
		9	US5U38	P+SBD(0.7A)	-20	-1.0	1.0	—	570	310	280	—	2.1	
		10	US5U2	N+SBD(0.5A)	30	1.4	1.0	—	—	270	250	170	1.4 ¹⁾	4.0
11		US5U35	P+SBD(0.1A)	-45	-0.7	1.0	—	—	1000	900	600	1.7		
SOT-363T (2021) (TUMT6)		12	US6U37	N+SBD(0.7A)	30	1.5	1.0	—	240	180	170	—	1.6	2.5
TSST8 (3019)		13	TT8U1	P+SBD(1A)	-20	-2.4	1.25	180	105	—	80	—	6.7	1.5
		14	TT8U2		-20	-2.4	1.25	180	105	—	80	—	6.7	
SOT-25T (2928) (TSMT5)		15	QS5U36	N+SBD(0.7A)	20	2.5	1.25	120	74	—	58	—	3.5	2.5
		16	QS5U34	N+SBD(0.5A)	20	1.5	1.25	220 ⁶⁾	170	—	130	—	1.8	
		17	QS5U13 ²⁾	N+SBD(0.5A)	30	2.0	1.25	—	110	76	71	—	2.8	
		18	QS5U16 ²⁾		30	2.0	1.25	—	110	76	71	—	2.8	
		19	QS5U12 ³⁾	N+SBD(1A)	30	2.0	1.25	—	110	76	71	—	2.8	
		20	QS5U17 ³⁾		30	2.0	1.25	—	110	76	71	—	2.8	
		21	QS5U28		P+SBD(1A)	-20	-2.0	1.25	—	175	97	90	—	
		22	QS5U26 ⁵⁾	P+SBD(0.5A)	-20	-1.5	1.25	—	260	180	160	—	4.2	
		23	QS5U21 ⁴⁾	P+SBD(1A)	-20	-1.5	1.25	—	260	180	160	—	4.2	
		24	QS5U27 ⁴⁾		-20	-1.5	1.25	—	260	180	160	—	4.2	
25		QS5U23 ⁵⁾	P+SBD(0.5A)	-20	-1.5	1.25	—	260	180	160	—	4.2		
SOT-457T (2928) (SC-95) (TSMT6)		26	QS5U33	P+SBD(1A)	-30	-2.0	1.25	—	—	160	145	95	3.4 ¹⁾	4.0
		27	QS6U22	P+SBD(0.7A)	-20	-1.5	1.25	—	310	170	155	—	3.0	2.5
		28	QS6U24	P+SBD(0.7A)	-30	-1.0	1.25	—	—	600	500	300	1.7 ¹⁾	4.0

*1:V_{GS}=5V *2,*3,*4,*5 :Please note that, although the internal circuit configuration may differ between part numbers, the electrical specifications remain the same. *6:V_{GS}=1.8V

Bipolar Transistors (Surface mount type)

Bipolar Transistors (Surface mount type) 1										
Package	SOT-723 (1212) (VMT3)		SOT-416FL (1616) (SC-89) (EMT3F)		SOT-416 (1616) (SC-75A) (EMT3)		V _{CEO} (V)	I _C (A)	h _{FE} ^{*2}	Automotive Grade Available
	 ^{*1} P _D =0.15W	 ^{*1} P _D =0.15W	 ^{*1} P _D =0.15W							
Application	PNP	NPN	PNP	NPN	PNP	NPN				
General Purpose Amplification	2SAR522M	2SCR522M	2SAR522EB	2SCR522EB	—	—	20	0.2	120 to 560	—
	2SAR523M	2SCR523M	2SAR523EB	2SCR523EB	—	—	50	0.1	120 to 560	—
	2SA2029	2SC5658	2SA1774EB	2SC4617EB	2SA1774	2SC4617	50	0.15	120 to 390	Yes
Low V _{CE} (sat)	2SA2030	2SC5663	—	—	2SA2018	2SC5585	12	0.5	270 to 680	—
	—	2SD2696	—	—	—	—	30	0.4	270 to 680	—
Driver	—	—	2SAR502EB	2SCR502EB	—	—	30	0.5	200 or more	—
High h _{FE} muting	—	2SD2707	—	—	—	2SD2654	50	0.15	820 to 2700	—
High Frequency	—	2SC5659	—	—	—	2SC4618	25	0.05	82 to 180 (f _T =300MHz)	—
	—	2SC5661	—	—	—	2SC4725	20	0.05	82 to 180 (f _T =1500MHz)	—
	—	2SC5662	—	—	—	2SC4726	11	0.05	56 to 180 (f _T =3200MHz)	—

Notes : 1. *1 With reference land installed 2. *2 For h_{FE} , please see the technical specifications. 3. PNP (-) symbol omitted.

Bipolar Transistors (Surface mount type)<For oversea customer only>									
Application Package Polarity	SOT-323 (2021) (SC-70) (UMT3)		SOT-23 (2924) (SST3)		V _{CEO} (V)	I _C (A)	SOT-323 SC-59 SOT-23	h _{FE} ^{*2}	Automotive Grade Available
	 ^{*1} P _D =0.2W		 ^{*1} P _D =0.2W				P _C (W) (Ta=25°C)		
	PNP	NPN	PNP	NPN					
General Purpose Amplification & Pre Amp	BC858BW	BC848BW	BC858B ^{*3}	BC848B ^{*3}	30	0.1	0.2	200 to 800	Only SOT-23 Yes
	—	—	—	—	45	0.2	0.2	140 to 630	—
	—	—	BC857B ^{*3}	BC847B ^{*3}	45	0.1	0.2	200 to 800	Only SOT-23 Yes
	—	—	—	—	40	0.2	0.2	100 or more	—
Driver	—	—	BCX17 ^{*3}	BCX19 ^{*3}	45	0.5	0.2	100 to 600	Only SOT-23 Yes
	—	—	SSTA56 ^{*3}	SSTA06 ^{*3}	80	0.5	0.2	100 or more	Only SOT-23 Yes
Switching	UMT3906	UMT3904	SST3906	SST3904 ^{*3}	40	0.2	0.2	100 to 300	Only SOT-23 Yes
	—	—	SST4403 ^{*3}	SST4401 ^{*3}	40	0.6	0.2	100 to 300	Only SOT-23 Yes
	—	UMT2222A	—	SST2222A ^{*3}	40	0.6	0.2	100 to 300	Only SOT-23 Yes
	UMT2907A	—	SST2907A ^{*3}	—	60	0.6	0.2	100 to 300	Only SOT-23 Yes
Darlington ^{*4}	—	—	—	—	30 (V _{CES})	0.5	0.2	5k or more	—
	—	—	—	SSTA28 ^{*3}	80 (V _{CES})	0.3	0.2	10k or more	—

Notes: 1. *1 With reference land installed 2. *2 For h_{FE} , please see the technical specifications. 3. *3 SST3 package 4. *4 For internal circuit, please see the technical specifications. 5. PNP (-) symbol omitted.

Bipolar Transistors (Surface mount type)

Bipolar Transistors (Surface mount type) 2										
Package	SOT-323FL (2021) (SC-85) (UMT3F)		SOT-323 (2021) (SC-70) (UMT3)		SC-59 (2928) (SMT3)		V _{CEO} (V)	I _C (A)	h _{FE} *2	Automotive Grade Available
	 *1 P _D =0.2W	 *1 P _D =0.2W	 *1 P _D =0.2W							
Polarity	PNP	NPN	PNP	NPN	PNP	NPN				
Application										
General Purpose Amplification	2SAR522UB	2SCR522UB	—	—	—	—	20	0.2	120 to 560	—
	2SAR523UB	2SCR523UB	—	—	—	—	50	0.1	120 to 560	—
	2SA1576UB	2SC4081UB	2SA1576A	2SC4081	2SA1037AK	2SC2412K	50	0.15	120 to 390	Yes
	—	—	2SA1579	2SC4102	2SA1514K	2SC3906K	120	0.05	180 to 560	Yes
Low V _{CE(sat)}	—	—	—	—	2SA2119K	—	12	0.5	270 to 680	—
	—	—	—	—	—	2SD1757K	15	0.5	120 to 560	—
	—	—	—	—	2SB1590K	2SD2444K	15	1	120 to 270 180 to 390	—
	—	—	2SB1689	2SD2652	—	—	12	1.5	270 to 680	—
	—	—	—	—	2SB1690K	2SD2653K	12	2	270 to 680	—
	—	—	2SB1694	2SD2656	—	—	30	1	270 to 680	Yes
	—	—	—	—	2SB1695K	2SD2657K	30	1.5	270 to 680	—
	—	—	—	—	—	—	—	—	—	—
Driver	2SAR502UB	2SCR502UB	—	—	—	—	30	0.5	200 to 500	—
	—	—	2SA1577	2SC4097	2SA1036K	2SC2411K	32	0.5	120 to 390	Only SC-59 Yes
	—	—	—	—	2SB1197K	2SD1781K	32	0.8	120 to 390	Yes
	—	—	—	2SD1949	—	2SD1484K	50	0.5	120 to 390	Yes
	—	—	—	—	2SB1198K	2SD1782K	80	0.5	120 to 390	Yes
High speed SW	—	—	2SA2088	2SC5876	—	—	60	0.5	120 to 270 120 to 390	Yes
High h _{FE} Muting	—	—	—	—	—	2SD2704K	25 (V _{EBO})	0.3	820 to 2700	—
	—	—	—	—	—	2SD2114K	20	0.5	820 to 2700	—
	—	—	—	2SD2351	—	2SD2226K	50	0.15	820 to 2700	—
High Voltage	—	—	—	—	—	2SC4061K	300	0.1	56 to 120	—
High Frequency	—	—	—	2SC4098	—	2SC2413K	25	0.05	82 to 180 (f _T =300MHz)	—
	—	—	—	2SC4774	—	2SC4713K	6	0.05	180 to 560 (f _T =800MHz)	—
	—	—	—	2SC4082	—	2SC3837K	20	0.05	82 to 180 (f _T =1500MHz)	—
	—	—	—	2SC4083	—	2SC3838K	11	0.05	56 to 180 (f _T =3200MHz)	—
Darlington*3	—	—	—	—	—	2SD2142K	30	0.3	5k or more	—
	—	—	—	—	2SB852K	2SD1383K	32 (V _{CES})	0.3	5k or more	—

Notes : 1.*1 With reference land installed 2.*2 For h_{FE} , please see the technical specifications. 3.*3 For internal circuit, please see the technical specifications. 4.PNP (-)symbol omitted.

Bipolar Transistors (Surface mount type) 3												
Package Polarity Application	SOT-323T (2021) (TUMT3)		SOT-363T (2021) (TUMT6)		SOT-346T (2928) (SC-96) (TSMT3)		SOT-457T (2928) (SC-95) (TSMT6)		V _{CEO} (V)	I _C (A)	h _{FE} *2	Automotive Grade Available
		*1 P _D =0.4W		*1 P _D =0.4W		*1 P _D =0.5W		*1 P _D =0.5W				
	PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN				
Low V _{CE(sat)}	2SB1732	2SD2702	—	—	2SB1709	2SD2674	—	—	12	1.5	270 to 680	—
	2SB1730	2SD2700	—	—	2SB1690	2SD2653	—	—	12	2.0	270 to 680	—
	—	—	US6T4	US6X3	2SB1705	2SD2670	—	—	12	3.0	270 to 680	—
	—	—	—	—	2SB1707	2SD2672	—	—	12	4.0	270 to 680	—
	—	—	—	—	—	—	QST2	QSX1	12	6.0	270 to 680	—
	2SB1733	2SD2703	—	—	2SB1710	2SD2675	—	—	30	1.0	270 to 680	—
	2SB1731	2SD2701	—	—	2SB1695	2SD2657	—	—	30	1.5	270 to 680	—
	—	—	US6T5	US6X4	2SB1706	2SD2671	—	—	30	2.0	270 to 680	—
	—	—	—	—	2SB1708	2SD2673	—	—	30	3.0	270 to 680	—
	—	—	—	—	New 2SB1708Q5	—	—	—	30	3.0	270 to 680	—
Driver	—	—	—	—	—	—	QST3	QSX2	30	5.0	270 to 680	—
	—	—	—	—	2SAR512R	2SCR512R	—	—	30	2.0	200 to 500	—
	—	—	—	—	2SAR513R	2SCR513R	—	—	50	1.0	180 to 450	—
	—	—	—	—	2SAR553R	2SCR553R	—	—	50	2.0	180 to 450	—
	—	—	—	—	2SAR543R	2SCR543R	—	—	50	3.0	180 to 450	—
	—	—	—	—	2SAR514R	2SCR514R	—	—	80	0.7	120 to 390	—
	—	—	—	—	2SAR554R	2SCR554R	—	—	80	1.5	120 to 390	—
	—	—	—	—	2SAR544R	2SCR544R	—	—	80	2.5	120 to 390	—
	—	—	—	—	—	—	New 2SAR340Q	New 2SCR341Q	400	0.1	82 to 270	Yes
High speed SW	—	—	—	—	2SA2094	2SC5866	—	—	60	2.0	120 to 270/ 120 to 390	—

Notes : 1.*1 With reference land installed 2.*2 For h_{FE} , please see the technical specifications. 3.*3 For internal circuit, please see the technical specifications. 4.PNP (-)symbol omitted.

Complex Bipolar Transistors

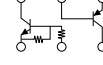
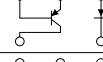
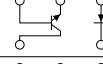
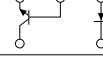
Complex Bipolar Transistors 1																
Configuration	Package	Item		SOT-553/SOT-563 (1616) (SC-107BB) / (SC-107C) (EMT5) / (EMT6)	SOT-353 / SOT-363 (2021) (SC-88A) (SC-88) (UMT5) / (UMT6)	SOT-25/SOT-457 (2928) (SC-74A) / (SC-74) (SMT5) / (SMT6)	SOT-353T / SOT-363T (2021) (TUMT5) / (TUMT6)	SOT-25T / SOT-457T (2928) (SC-95) (TSMT5) / (TSMT6)	Equivalent element transistors	V _{CEO} (V)	I _C (mA)	h _{FE}	Automotive Grade Available			
																
	Application	Equivalent circuit diagram (TOP View)	Part No.													
PNP×2	Pre Amp.		—	EMT51	—	—	—	—	2SAR522EBx2	-20	-200	120 to 560	—			
			—	EMT52	—	—	—	—	—	2SAR523EBx2	-50	-100	120 to 560	—		
			—	EMT1	UMT1N	IMT1A	—	—	—	2SA1037AKx2	-50	-150	120 or more	Yes		
			—	EMT18	UMT18N	IMT18	—	—	—	2SA2018x2	-12	-500	270 to 680	—		
			VT6T1	—	—	—	—	—	2SAR522Mx2	-20	-200	120 to 560	—			
			VT6T2	—	—	—	—	—	—	2SAR523Mx2	-50	-100	120 to 560	—		
	Driver		—	EMT2	UMT2N	IMT2A	—	—	—	2SA1037AKx2	-50	-150	120 to 560	—		
			—	EMT3	—	IMT3A	—	—	—	2SA1037AKx2	-50	-150	120 to 560	—		
			—	—	—	IMT4	—	—	—	2SA1514Kx2	-120	-50	180 or more	Yes		
			—	—	—	—	US6T8	QST8	2SB1709x2	-12	-1.5(A)	270 to 680	—			
			—	—	—	—	US6T9	QST9	2SB1710x2	-30	-1(A)	270 to 680	—			
			—	—	—	—	—	—	—	—	—	—	—			
Suitable for current mirror circuit		VT6T11	—	—	—	—	—	—	2SAR522Mx2	-20	-200	120 to 560	—			
		VT6T12	—	—	—	—	—	—	—	2SAR523Mx2	-50	-100	120 to 560	—		
NPN×2	Pre Amp.		—	EMX51	—	—	—	—	—	2SCR522EBx2	20	200	120 to 560	—		
			—	EMX52	—	—	—	—	—	—	2SCR523EBx2	50	100	120 to 560	—	
			—	EMX1	UMX1N	IMX1	—	—	—	—	2SC2412Kx2	50	150	120 or more	Yes	
			—	EMX26	—	—	—	—	—	—	2SD2654x2	50	150	820 to 2700	—	
			—	EMX18	UMX18N	—	—	—	—	—	2SC5585x2	12	500	270 to 680	—	
			—	—	—	IMX25	—	—	—	—	2SD2704Kx2	20	300	820 to 2700	—	
			VT6X1	—	—	—	—	—	—	—	2SCR522Mx2	20	200	120 to 560	—	
			VT6X2	—	—	—	—	—	—	—	2SCR523Mx2	50	100	120 to 560	—	
		High Frequency		—	EMX2	UMX2N	IMX2	—	—	—	2SC2412Kx2	50	150	120 to 560	—	
				—	EMX3	UMX3N	IMX3	—	—	—	—	2SC2412Kx2	50	150	120 to 560	—
	Driver		—	—	—	—	—	—	—	2SC3906Kx2	120	50	180 or more	Yes		
			—	EMX4	UMX4N	—	—	—	—	—	2SC3837Kx2	20	50	56 to 180	—	
	Suitable for current mirror circuit		—	EMX5	UMX5N	—	—	—	—	—	2SC3838Kx2	11	50	56 to 120	—	
			—	—	—	—	—	—	—	—	—	—	—	—		
	DC-DC Converter		VT6X11	—	—	—	—	—	—	2SD2674x2	12	1.5(A)	270 to 680	—		
			VT6X12	—	—	—	—	—	—	—	2SD2675x2	30	1(A)	270 to 680	—	
	DC-DC Converter		—	—	—	—	—	—	—	2SCR522Mx2	20	200	120 to 560	—		
			—	—	—	—	—	—	—	—	2SCR523Mx2	50	100	120 to 560	—	
DC-DC Converter		—	—	—	—	—	—	—	QS5W1	—	30	3(A)	200 to 500	—		
		—	—	—	—	—	—	—	—	QS5W2	2SCR533Px2	50	3(A)	180 to 450	—	
PNP + NPN	Amplifier		—	EMY1	UMY1N	FMY1A	—	—	—	2SA1037AK	-50	-150	120 or more	—		
	Inverter Driver		—	—	—	FMY4A	—	—	—	2SC2412K	50	150	120 to 560	—		
	Pre Amp.		—	EMZ51	—	—	—	—	—	—	2SAR522EB	-20	-200	120 to 560	—	
			—	EMZ52	—	—	—	—	—	—	—	2SCR523EB	50	100	120 to 560	—
			—	EMZ1	UMZ1N	IMZ1A	—	—	—	—	—	2SA1037AK	-50	-150	120 or more	Yes
			—	EMZ7	—	—	—	—	—	—	—	2SC2412K	50	150	120 or more	—
			—	—	—	—	—	—	—	—	2SA2018	-12	-500	270 to 680	—	
			—	EMZ2	UMZ2N	IMZ2A	—	—	—	—	—	2SC5585	12	500	270 to 680	—
			—	—	—	—	—	—	—	—	—	2SAR513P	-50	-1(A)	180 to 450	—
			—	—	—	—	—	—	—	—	—	2SCR513P	50	1(A)	180 to 450	—
		—	EMZ8	—	—	—	—	—	—	—	2SA1037AK	-50	-150	120 to 560	—	
		—	—	—	—	—	—	—	—	—	2SC2412K	50	150	120 to 560	—	
VT6Z1		—	—	—	—	—	—	—	—	2SAR522M	-20	-200	120 to 560	—		
VT6Z2		—	—	—	—	—	—	—	—	2SCR522M	20	200	120 to 560	—		

No.1 Pin is located on the upper right of equivalent circuit diagram for VMT6, EMT5, EMT6, UMT5, UMT6, TUMT5, TUMT6, TSMT5 and TSMT6 packages.
No.1 Pin is located on the lower right of equivalent circuit diagram for SMT5 and SMT6 packages.

Complex Bipolar Transistors

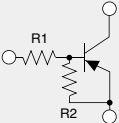
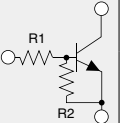
Complex Bipolar Transistors 2														
Configuration	Package		VMT6 (1212)	SOT-553 / SOT-563 (1616) (SC-107BB) / (SC-107C) (EMT5) / (EMT6)	SOT-353 / SOT-363 (2021) (SC-88A) (SC-88) (UMT5) / (UMT6)	SOT-25/SOT-457 (2928) (SC-74A) / (SC-74) (SMT5) / (SMT6)	SOT-353T / SOT-363T (2021) (TUMT5) / (TUMT6)	SOT-25T / SOT-457T (2928) (SC-85) (TSMT5) / (TSMT6)	Equivalent element transistors	V _{CEO} (V)	I _C (mA)	h _{FE}	Automotive Grade Available	
														
	Item	Application	Equivalent circuit diagram(TOP View)	Part No.										
PNP + NPN	DC-DC Converter		—	—	—	—	—	QSZ1	2SB1690 2SD2653	-12 12	-2(A) 2(A)	270 to 680 270 to 680	—	
			—	—	—	—	—	QSZ2	2SB1695 2SD2657	-30 30	-1.5(A) 1.5(A)	270 to 680 270 to 680	—	
			—	—	—	—	—	QS5Y1	—	-30 30	-3(A) 3(A)	200 to 500 200 to 500	—	
			—	—	—	—	—	QSZ4	2SB1706 2SD2671	-30 30	-2(A) 2(A)	270 to 680 270 to 680	—	
			—	—	—	—	—	QS5Y2	2SAR533P 2SCR533P	-50 50	-3(A) 3(A)	180 to 450 180 to 450	—	

No. 1 Pin is located on the upper right of equivalent circuit diagram for VMT6, EMT5, EMT6, UMT5, UMT6, TUMT5, TUMT6, TSMT5 and TSMT6 packages.
No. 1 Pin is located on the lower right of equivalent circuit diagram for SMT5 and SMT6 packages.

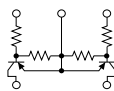
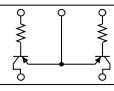
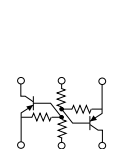
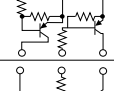
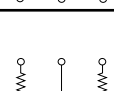
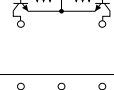
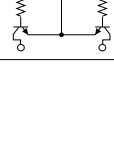
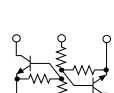
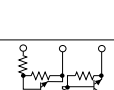
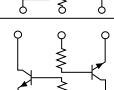
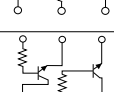
Complex Bipolar Transistors 3											
Configuration	Package	Item	EMT5 / EMT6 (1616) (1616) (SC-107BB)(SC-107C)		UMT5 / UMT6 (2021) (2021) (SC-88A) (SC-88) <SOT-353><SOT-363>		Equivalent element transistors	V _{CEO} (V)	I _C (mA)	h _{FE}	Automotive Grade Available
											
	Application	Equivalent circuit diagram (TOP View)	Part No.								
PNP+DTR	Power Manegement		EMF5	UMF5N	2SA2018 DTC144E	-12 50	-500 100	270 to 680 68 or more	—		
			—	UMF28N	2SA1774 DTC124X	-50 50	-150 100	180 to 390 68 or more	—		
PNP+Di	DC-DC Converter		—	UML1N	2SA1774 DAN202K	-50 80	-150 100	120 or more —	—		
			—	UML4N	2SA2018 RB521S-30	-12 30	-500 200	270 to 680 —	—		
NPN+Di			—	UML2N	2SC4617 DAN202K	50 80	150 100	120 or more —	—		
				—	UML6N	2SC5585 RB521S-30	12 30	500 200	270 to 680 —	—	
NPN+Di	Shunt Regulator		EML22	UML23N	2SC2412K VDZ6.8B	50 V _z =6.8	150 I _z =5	120 to 270 —	—		

No. 1 Pin is located on the upper right of equivalent circuit diagram for EMT5, EMT6, UMT5 and UMT6 packages.

Digital Transistors

Digital Transistors																		
Specifications	Item	Part No.		R1 (kΩ)	R2 (kΩ)	Package						V _{CC} (V _{CE0}) (V)	I _o (I _c) (mA)	G _I (h _{FE})	Automotive Grade Available			
		PNP	NPN			SOT-723 (1212) (SC-105AA) (VMT3)	SOT-416FL (1616) (SC-89) (EMT3F)	SOT416 (1616) (SC-75A) (EMT3)	SOT-323F (2021) (SC-85) (UMT3F)	SOT-323 (2021) (SC-70) (UMT3)	SOT-23 <2924> (SST3)					SOT-346 (2928) (SC-59) (SMT3)		
																		
		Type				Pd=150mW			Pd=200mW									
R1=R2 Potential Divider Type	100mA	DTA123ExA	DTC123ExA	2.2	2.2	●	—	●	—	●	●	●	50	100	20 or more	Yes		
		DTA023Ex	DTC023Ex	2.2	2.2	●	●	—	●	—	—	—	50	100	20 or more	—		
		DTA143ExA	DTC143ExA	4.7	4.7	●	●	●	●	●	●	●	50	100	20 or more	Yes		
		DTA043Ex	DTC043Ex	4.7	4.7	●	●	—	—	—	—	—	50	100	20 or more	—		
		DTA114ExA	DTC114ExA	10	10	●	●	●	●	●	●	●	50	50	30 or more	Yes		
		DTA014Ex	DTC014Ex	10	10	●	●	—	—	—	—	—	50	50	30 or more	—		
		DTA124ExA	DTC124ExA	22	22	●	●	●	●	●	●	●	50	30	56 or more	Yes		
		DTA024Ex	DTC024Ex	22	22	●	●	—	—	—	—	—	50	30	56 or more	—		
		DTA144ExA	DTC144ExA	47	47	●	●	●	●	●	●	●	50	30	68 or more	Yes		
		DTA044Ex	DTC044Ex	47	47	●	●	—	—	—	—	—	50	30	80 or more	—		
	500mA	DTA115ExA	DTC115ExA	100	100	●	●	●	—	●	●	●	50	20	82 or more	Only SOT-23 Yes		
		DTA015Ex	DTC015Ex	100	100	●	●	—	●	—	—	—	50	20	80 or more	—		
		DTB543Ex	DTD543Ex	4.7	4.7	●	—	●	—	—	—	—	12	500	115 or more	—		
		DTB113Ex	DTD113Ex	1	1	—	—	—	—	—	●	●	50	500	33 or more	—		
		DTB123Ex	DTD123Ex	2.2	2.2	—	—	—	—	—	●	●	50	500	39 or more	—		
		DTB143Ex	DTD143Ex	4.7	4.7	—	—	—	—	—	●	●	50	500	47 or more	Only SOT-23 Yes		
	R1 + R2 Leak Absorption Type	100mA	DTA113ZxA	DTC113ZxA	1	10	—	—	DTA only	—	●	●	●	50	100	33 or more	Yes	
			DTA013Zx	DTC013Zx	1	10	●	●	—	●	—	—	—	50	100	30 or more	—	
			DTA123YxA	DTC123YxA	2.2	10	—	—	●	—	●	●	●	50	100	33 or more	Yes	
			DTA023Yx	DTC023Yx	2.2	10	●	●	—	●	—	—	—	50	100	33 or more	—	
			DTA123JxA	DTC123JxA	2.2	47	●	●	●	●	●	●	●	50	100	80 or more	Yes	
			DTA023Jx	DTC023Jx	2.2	47	●	●	—	●	—	—	—	50	100	80 or more	—	
			DTA143XxA	DTC143XxA	4.7	10	●	●	●	●	●	●	●	50	100	30 or more	Yes	
			DTA043Xx	DTC043Xx	4.7	10	●	●	—	●	—	—	—	50	100	35 or more	—	
			DTA143ZxA	DTC143ZxA	4.7	47	●	●	●	●	●	●	●	50	100	80 or more	Yes	
			DTA043Zx	DTC043Zx	4.7	47	●	●	—	●	—	—	—	50	100	80 or more	—	
DTA114WxA			DTC114WxA	10	4.7	—	—	●	—	●	●	●	50	100	24 or more	—		
DTA114YxA			DTC114YxA	10	47	●	●	●	●	●	●	●	50	70	68 or more	Yes		
500mA			DTA014Yx	DTC014Yx	10	47	●	●	—	●	—	—	—	50	70	68 or more	—	
		DTA124XxA	DTC124XxA	22	47	●	—	●	—	●	●	●	50	50	68 or more	Yes		
		DTA024Xx	DTC024Xx	22	47	●	●	—	●	—	—	—	50	50	80 or more	—		
		DTA144VxA	DTC144VxA	47	10	—	—	—	—	DTC only	—	●	50	100	33 or more	—		
		DTA144WxA	DTC144WxA	47	22	—	—	●	—	●	●	●	50	30	56 or more	—		
		DTB513Zx	DTD513Zx	1	10	●	—	●	—	—	—	—	12	500	140 or more	—		
		DTB523Yx	DTD523Yx	2.2	10	●	—	●	—	—	—	—	12	500	140 or more	—		
		DTB543Xx	DTD543Xx	4.7	10	●	—	●	—	—	—	—	12	500	140 or more	—		
		DTB543Zx	DTD543Zx	4.7	47	●	—	●	—	—	—	—	12	500	140 or more	—		
		DTB113Zx	DTD113Zx	1	10	—	—	—	—	DTD only	●	●	50	500	56 or more	—		
		DTB123Yx	DTD123Yx	2.2	10	—	—	—	—	DTB only	●	●	50	500	56 or more	Only SOT-23 Yes		
		Type using R1 alone as input Resistor	100mA	DTA113TKA	—	1	None	—	—	—	—	—	—	●	50	100	100 to 600	—
				—	DTC123TKA	2.2	None	—	—	—	—	—	—	—	●	50	100	100 to 600
DTA143TxA				DTC143TxA	4.7	None	●	●	●	●	●	●	●	50	100	100 to 600	Yes	
DTA043Tx	DTC043Tx			4.7	None	●	●	—	●	—	—	—	50	100	100 to 600	—		
DTA114TxA	DTC114TxA			10	None	●	●	●	●	●	●	●	50	100	100 to 600	Yes		
DTA014Tx	DTC014Tx			10	None	●	●	—	●	—	—	—	50	100	100 to 600	—		
DTA124TxA	DTC124TxA			22	None	●	—	●	—	●	—	●	50	100	100 to 600	Yes		
DTA144TxA	DTC144TxA			47	None	●	—	●	—	●	—	●	50	100	100 to 600	Yes		
DTA044Tx	DTC044Tx			47	None	●	●	—	●	—	—	—	50	60	100 to 600	—		
DTA115TxA	DTC115TxA			100	None	●	—	●	—	●	—	●	50	100	100 to 600	—		
500mA	DTA015Tx		DTC015Tx	100	None	●	—	—	●	—	—	—	50	100	100 to 600	—		
	DTA125TxA		DTC125TxA	200	None	—	—	—	—	●	—	●	50	100	100 to 600	—		
	DTB123TK		DTD123TK	2.2	None	—	—	—	—	—	—	●	40	500	100 to 600	—		
	DTB143TK		DTD143TK	4.7	None	—	—	—	—	—	●	●	40	500	100 to 600	—		
	DTB114TK		—	10	None	—	—	—	—	—	—	●	40	500	100 to 600	—		
	—		DTC614Tx	10	None	—	—	—	—	—	●	●	20	600	820 to 2700	—		
For muting	—	DTC623Tx	2.2	None	—	—	—	—	—	●	●	20	600	820 to 2700	—			
	—	DTC643Tx	4.7	None	—	—	—	—	—	●	●	20	600	820 to 2700	—			
	—	DTC923TUB	2.2	None	—	—	—	●	—	—	—	40 (V _{ES0})	400	820 to 2700	—			
	—	DTC943TUB	4.7	None	—	—	—	●	—	—	—	40 (V _{ES0})	400	820 to 2700	—			
	—	DTC914TUB	10	None	—	—	—	●	—	—	—	40 (V _{ES0})	400	820 to 2700	—			
	Type using R2 alone as Bleeder Resistor	100mA	DTA114GxA	DTC114GxA	None	10	—	—	—	—	●	●	●	50	100	30 or more	Except SOT-346 Yes	
DTA124GxA			DTC124GxA	None	22	—	—	—	—	DTC only	—	●	50	100	68 or more	Only SOT-323 Yes		
DTA144GxA			DTC144GxA	None	47	—	—	DTC only	—	●	—	●	50	100	68 or more	Only SOT-323 Yes		
500mA		DTA115GxA	DTC115GxA	None	100	—	—	—	—	●	—	●	50	100	68 or more	—		
		DTB114GK	DTD114GK	None	10	—	—	—	—	—	—	—	—	500	56 or more	—		
x : Packaging designation symbol						M	EB	E	UB	U	C	K						

Complex Digital Transistors

Complex Digital Transistors 1											
Configuration	Equivalent circuit diagram (TOP View)	SOT-553 / SOT-563 (1616) (SC-107BB) / (SC-107C) (EMT5) / (EMT6)	SOT-353 / SOT-363 (2021) (SC-88A) / (SC-88) (UMT5) / (UMT6)	SOT-25/SOT-457 (2928) (SC-74A) / (SC-74) (SMT5) / (SMT6)	SOT-353T / SOT-363T (2021) (TUMT5) / (TUMT6)	SOT-457T (2928) (SC-95) (TSMT6)	Equivalent element transistors	R1 (kΩ)	R2 (kΩ)	Automotive Grade Available	
											
		Part No.									
PNP x2 (100mA)		EMA5	UMA5N	FMA5A	—	—	DTA123Jx2	2.2	47.0	—	
		—	UMA9N	FMA9A	—	—	DTA114Ex2	10.0	10.0	—	
		—	UMA1N	FMA1A	—	—	DTA124Ex2	22.0	22.0	—	
		EMA2	UMA2N	FMA2A	—	—	DTA144Ex2	47.0	47.0	—	
		EMA3	UMA3N	FMA3A	—	—	DTA143Tx2	4.7	—	—	
		EMA4	UMA4N	FMA4A	—	—	DTA114Tx2	10.0	—	—	
		EMB10	UMB10N	IMB10A	—	—	DTA123Jx2	2.2	47.0	Yes	
		EMB60	—	—	—	—	DTA023Jx2	2.2	47.0	—	
		EMB75	—	—	—	—	DTA043Zx2	4.7	47.0	—	
		EMB59	—	—	—	—	DTA014Yx2	10.0	47.0	—	
		EMB11	UMB11N	IMB11A	—	—	DTA114Ex2	10.0	10.0	Yes	
		EMB61	—	—	—	—	DTA014Ex2	10.0	10.0	—	
		EMB51	—	—	—	—	DTA024Ex2	22.0	22.0	—	
		EMB2	UMB2N	IMB2A	—	—	DTA144Ex2	47.0	47.0	Yes	
		EMB52	—	—	—	—	DTA044Ex2	47.0	47.0	—	
			EMB6	UMB6N	—	—	—	DTA144Ex2	47.0	47.0	—
			EMB3	UMB3N	IMB3A	—	—	DTA143Tx2	4.7	—	Yes
	EMB53		—	—	—	—	DTA043Tx2	4.7	—	—	
	EMB4	UMB4N	—	—	—	DTA114Tx2	10.0	—	Yes		
NPN x2 (100mA)		EMG11	UMG11N	—	—	—	DTC123Jx2	2.2	47.0	—	
		EMG8	UMG8N	—	—	—	DTC143Zx2	4.7	47.0	—	
		EMG9	UMG9N	FMG9A	—	—	DTC114Ex2	10.0	10.0	—	
		EMG5	UMG5N	—	—	—	DTC114Yx2	10.0	47.0	—	
		EMG1	UMG1N	FMG1A	—	—	DTC124Ex2	22.0	22.0	—	
		EMG2	UMG2N	FMG2A	—	—	DTC144Ex2	47.0	47.0	—	
		EMG3	UMG3N	FMG3A	—	—	DTC143Tx2	4.7	—	—	
		EMG4	UMG4N	FMG4A	—	—	DTC114Tx2	10.0	—	—	
		EMG6	UMG6N	FMG6A	—	—	DTC144Tx2	47.0	—	—	
		EMH10	UMH10N	—	—	—	DTC123Jx2	2.2	47.0	Yes	
		EMH60	—	—	—	—	DTC023Jx2	2.2	47.0	—	
		EMH25	—	—	—	—	DTC143Zx2	4.7	47.0	Yes	
		EMH75	—	—	—	—	DTC043Zx2	4.7	47.0	—	
		EMH11	UMH11N	IMH11A	—	—	DTC114Ex2	10.0	10.0	Yes	
		EMH61	—	—	—	—	DTC014Ex2	10.0	10.0	—	
		EMH9	UMH9N	IMH9A	—	—	DTC114Yx2	10.0	47.0	Yes	
		EMH59	—	—	—	—	DTC014Yx2	10.0	47.0	—	
		EMH1	UMH1N	IMH1A	—	—	DTC124Ex2	22.0	22.0	Yes	
		EMH51	—	—	—	—	DTC024Ex2	22.0	22.0	—	
		EMH2	UMH2N	IMH2A	—	—	DTC144Ex2	47.0	47.0	Yes	
		EMH52	—	—	—	—	DTC044Ex2	47.0	47.0	—	
		—	UMH5N	IMH5A	—	—	DTC124Ex2	22.0	22.0	—	
		EMH6	UMH6N	IMH6A	—	—	DTC144Ex2	47.0	47.0	—	
		EMH3	UMH3N	IMH3A	—	—	DTC143Tx2	4.7	—	Yes	
		EMH53	—	—	—	—	DTC043Tx2	4.7	—	—	
		EMH4	UMH4N	IMH4A	—	—	DTC114Tx2	10.0	—	Yes	
		EMH15	—	IMH15A	—	—	DTC144Tx2	47.0	—	Yes	
		—	UMH8N	IMH8A	—	—	DTC114Tx2	10.0	—	—	
		—	UMH14N	IMH14A	—	—	DTC144Tx2	47.0	—	—	
NPN x2 muting		—	UMH33N	—	—	—	DTC923TUBx2	2.2	—	—	
		—	—	IMH23	US6H23	—	DTC643Tx2	4.7	—	—	
		—	UMH32N	—	—	—	DTC943TUBx2	4.7	—	—	
		—	—	IMH21	—	—	DTC614Tx2	10.0	—	—	
		—	UMH37N	—	—	—	DTC914TUBx2	10.0	—	—	
NPN x2 Driver		—	—	—	—	QSH29	60±10V/500mA×2	—	10.0	—	

Complex Digital Transistors 2								
Configuration	Equivalent circuit diagram (TOP View)	SOT-553 / SOT-563 (1616) (SC-107BB) (SC-107C) (EMT5) / (EMT6)	SOT-353 / SOT-363 (2021) (SC-88A) (SC-88) (UMT5) / (UMT6)	SOT-25 / SOT-457 (2928) (SC-74A) (SC-74) (SMT5) / (SMT6)	Equivalent element transistors	R1 (kΩ)	R2 (kΩ)	Automotive Grade Available
		Part No.						
PNP+NPN (100mA) complimentary		EMD22	UMD22N	—	DTA143Z DTC143Z	4.7 4.7	47 47	Yes
		EMD72	—	—	DTA043Z DTC043Z	4.7 4.7	47 47	—
		EMD3	UMD3N	IMD3A	DTA114E DTC114E	10.0 10.0	10 10	Yes
		EMD53	—	—	DTA014E DTC014E	10.0 10.0	10 10	—
		EMD9	UMD9N	IMD9A	DTA114Y DTC114Y	10.0 10.0	47 47	Yes
		EMD59	—	—	DTA014Y DTC014Y	10.0 10.0	47 47	—
		EMD2	UMD2N	IMD2A	DTA124E DTC124E	22.0 22.0	22 22	Yes
		EMD52	—	—	DTA024E DTC024E	22.0 22.0	22 22	—
		EMD12	UMD12N	—	DTA144E DTC144E	47.0 47.0	47 47	Yes
		EMD62	—	—	DTA044E DTC044E	47.0 47.0	47 47	—
		EMD6	UMD6N	IMD6A	DTA143T DTC143T	4.7 4.7	— —	Yes
PNP+NPN (100mA) different type		EMD38	—	—	DTA113Z DTC114Y	1.0 10.0	10 47	—
		EMD5	UMD5N	—	DTA143X DTC144E	4.7 47.0	10 47	—
		EMD4	UMD4N	—	DTA114Y DTC144E	10.0 47.0	47 47	—
PNP+NPN Power management		EMD29	—	—	DTB513Z DTC114E	1.0 10.0	10 10	—
		EMD30	—	—	DTB713Z DTC114E	1.0 10.0	10 10	—
		—	—	IMD10A	−50V/−0.5A DTC114T	0.1 10.0	10 —	—
		—	—	IMD16A	−50V/−0.5A DTC115T	2.2 100.0	10 —	—

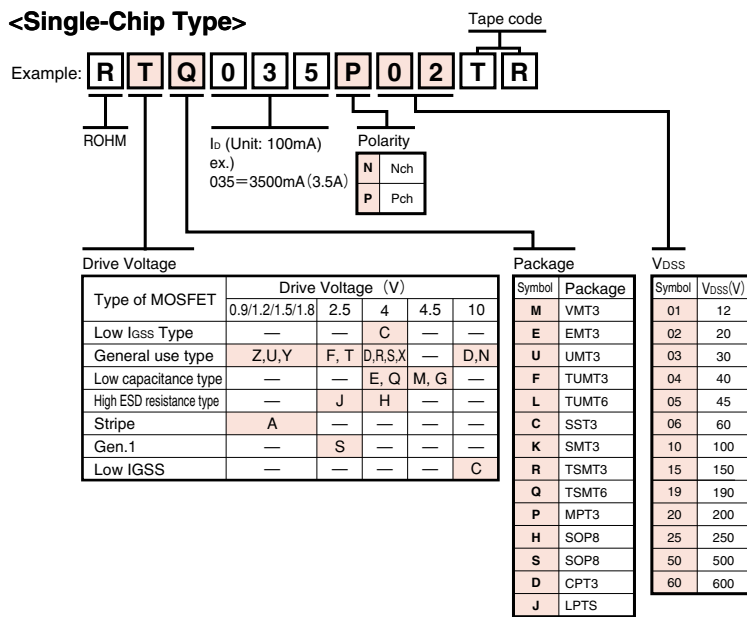
No.1 Pin is located on the upper right of equivalent circuit diagram for EMT5, EMT6, UMT5 and UMT6 packages.

No.1 Pin is located on the lower right of equivalent circuit diagram for SMT5 and SMT6 packages.

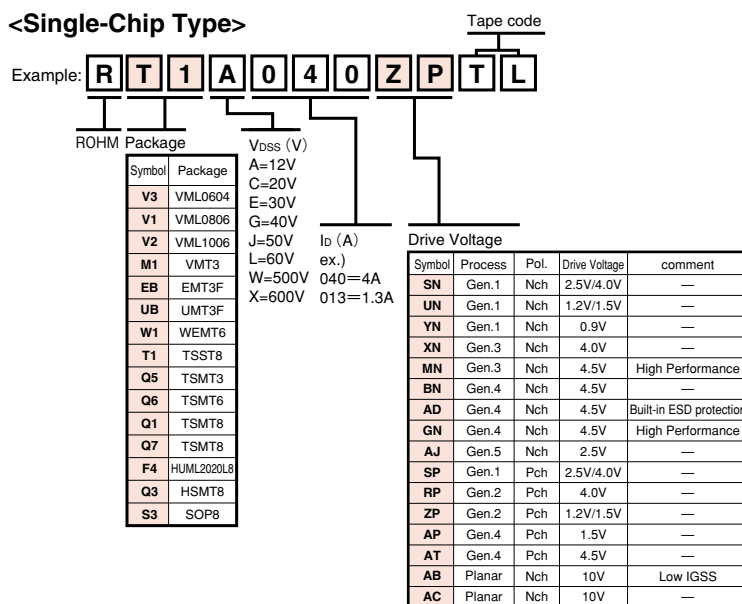
Part No. Explanation

•MOSFET Part No. Explanation

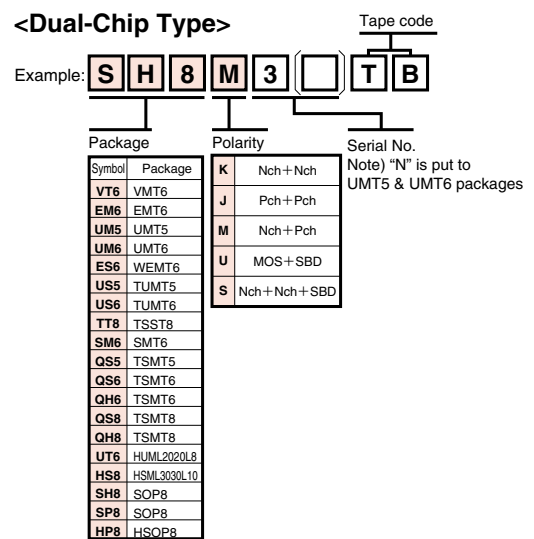
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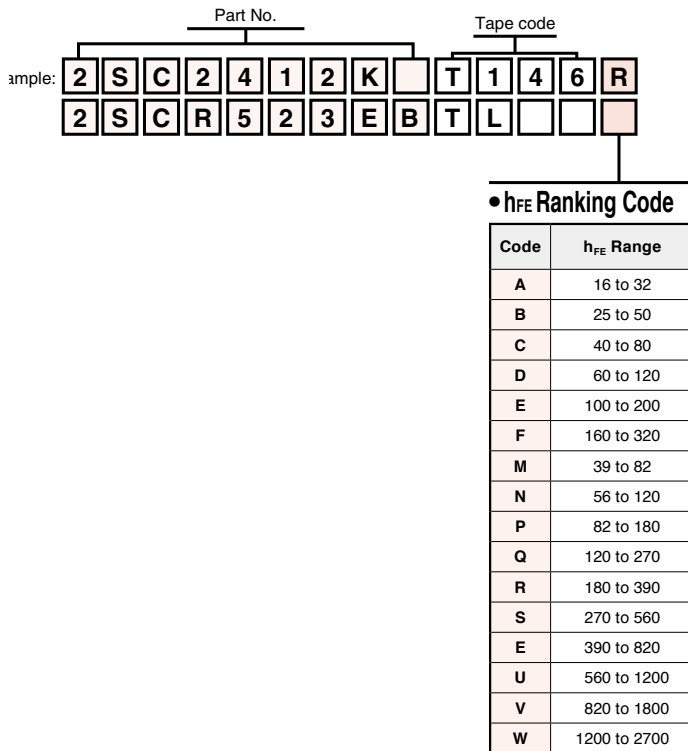
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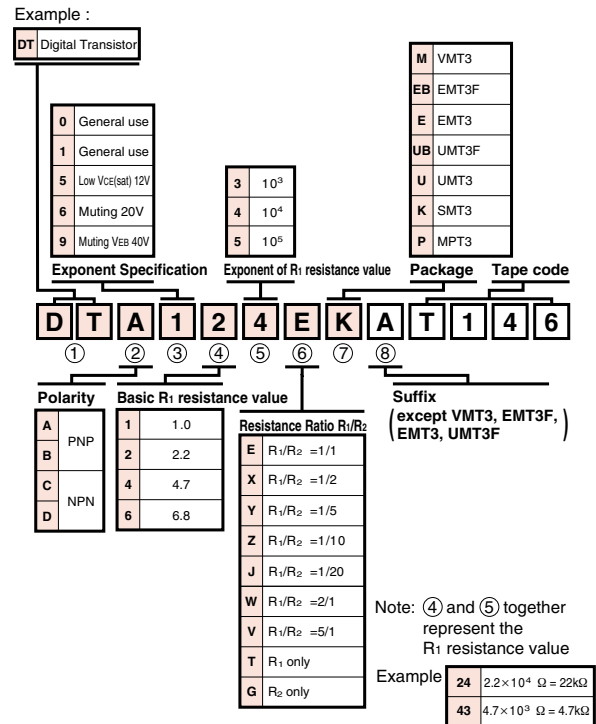
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Bipolar Transistor Part No. Explanation



Digital Transistor Part No. Explanation

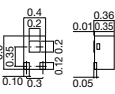
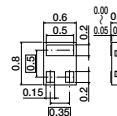
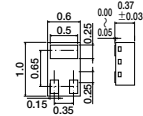
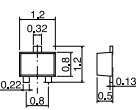
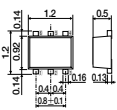
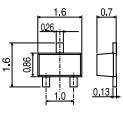
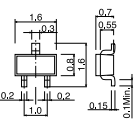
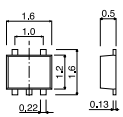
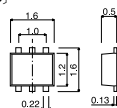
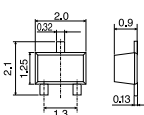
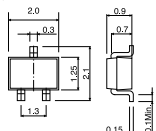
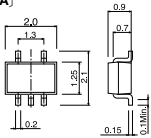
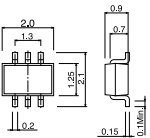
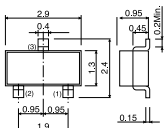
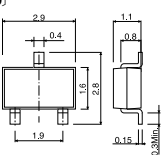
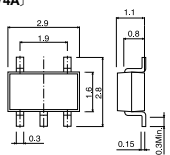
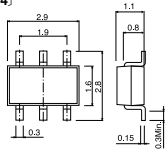
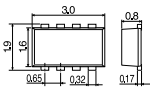
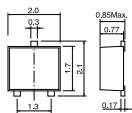
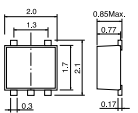
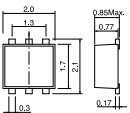
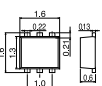
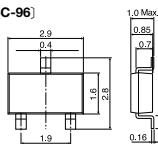
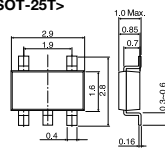
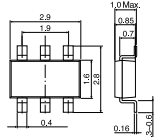
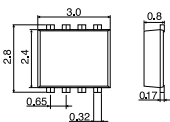


Packaging type

Standard Package Name	Package	Code	Packaging style	Direction	Basic ordering unit (pcs)
DFN-0604	VML0604	T2L,T2CL	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	8,000
DFN-0806	VML0806	T2L,T2CL	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	8,000
DFN-1006	VML1006	T2L,T2CL	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	8,000
SOT-723	VMT3	T2L,T2CL	Embossed tape	One terminal on sprocket hole side	8,000
SOT-723	VMT6	T2R,T2CR	Embossed tape	Terminal No.1 on sprocket hole side	8,000
SOT-416FL	EMT3F	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-416	EMT3	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-553	EMT5	T2R,T2CR	Embossed tape	Three terminals on sprocket hole side	8,000
SOT-563	EMT6	T2R,T2CR	Embossed tape	Terminal No.1 on sprocket hole side	8,000
SOT-323FL	UMT3F	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-323	UMT3	T106,T306	Embossed tape	One terminal on sprocket hole side	3,000
SOT-353	UMT5	TR,TCR	Embossed tape	Three terminals on sprocket hole side	3,000
SOT-363	UMT6	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
		TN,TCN	Embossed tape	Non-direction	3,000
SOT-23	SST3	T116,T316	Embossed tape	One terminal on sprocket hole side	3,000
SOT-346	SMT3	T146	Embossed tape	One terminal on sprocket hole side	3,000
SOT-25	SMT5	T148	Embossed tape	Three terminals on sprocket hole side	3,000
SOT-457	SMT6	T108	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	3,000
		T110	Embossed tape	Non-direction	3,000
TSST8	TSST8	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
SOT-323T	TUMT3	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-353T	TUMT5	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
SOT-363T	TUMT6	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
SOT-563T	WEMT6	T2R,T2CR	Embossed tape	Terminal No.1 on sprocket hole side	8,000
SOT-346T	TSMT3	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-25T	TSMT5	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
SOT-457T	TSMT6	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
TSMT8	TSMT8	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000

Packages

● Dimensions (Unit : mm)

VML0604 <DFN0604-3> 	VML0806 <DFN0806-3> 	VML1006 <DFN1006-3> 	VMT3 <SOT-723> [SC-105AA] 	VMT6 	EMT3F <SOT-416FL> [SC-89] 	EMT3 <SOT-416> [SC-75A] 	EMT5 <SOT-553> [SC-107BB] 	
EMT6 <SOT-563> [SC-107C] 	UMT3F <SOT-323FL> [SC-85] 		UMT3 <SOT-323> [SC-70] 		UMT5 <SOT-323> [SC-88A] 		UMT6 <SOT-363> [SC-88] 	
SST3 <SOT-23> 	SMT3 <SOT-346> [SC-59] 		SMT5 <SOT-25> [SC-74A] 		SMT6 <SOT-457> [SC-74] 		TSST8 	
TUMT3 <SOT-323T> 	TUMT5 <SOT-353T> 		TUMT6 <SOT-363T> 		WEMT6 <SOT-563T> 		TSMT3 <SOT-346T> [SC-96] 	TSMT5 <SOT-25T> 
TSMT6 <SOT-457T> [SC-95] 		TSMT8 						

Schottky Barrier Diodes

●

Quick Reference for Small Signal Type Schottky Barrier Diodes

V _R (V)	I _O (mA)	Package															
		0603 Size		0603 Size		1006 Size		1006 Size		1006 Size		1406 Size		1608 Size		2512 Size	
		DSN0603-2 (SMD0603)	No.	SOD-962 (GMD2)	No.	DFN1006-2 (VML2)	No.	SOD-923 (VMN2)	No.	SOD-923 (VMN2M)	No.	SOD-723 (VMD2)	No.	SOD-523 (EMD2)	No.	SOD-323FL (UMD2)	No.
20	200													New RBE02SM20A	30		
30	30							RB751CS-40	13	New RB751CM-40	18	RB751G-40	27	RB751SM-40	39	RB751VM-40	55
	100	RASMD New RB521ES-30	1	RB521ZS-30 RB520ZS-30	3 4			RB521CS-30 RB520CS-30	11 12	New RB521CM-30 New RB520CM-30 New RB530CM-30 New RB531CM-30	14 15 16 17	RB521G-30 RB520G-30 New RB530G-30 New RB531G-30	25 26 23 24	New RB510SM-30 New RB511SM-30 New RB500SM-30 New RB501SM-30	31 32 37 38	RB530VM-30 New RB510VM-30 New RB511VM-30 New RB531VM-30	46 47 48 49
	200					RB521AS-30 RB520AS-30 New RB540AS-30 New RB541AS-30	5 6 7 8							RB521SM-30 RB520SM-30 New RB531SM-30 New RB530SM-30	36 35 33 34	New RB520VM-30 New RB521VM-30 New RB540VM-30 New RB541VM-30	50 51 52 53
	500															New RB550VM-30	54
				New RB751ZS-40	2												
40	30																
	100									New RB520CM-40 New RB521CM-40	19 20	New RB520G-40 New RB521G-40	28 29	New RB530SM-40 New RB531SM-40	40 41	RB501VM-40 New RB500VM-40 RB531VM-40 RB530VM-40	58 59 56 57
	200					RB521AS-40 RB520AS-40	10 9							RB521SM-40 RB520SM-40 New RB540SM-40 New RB541SM-40	45 44 42 43	New RB540VM-40 New RB541VM-40 New RB521VM-40 New RB520VM-40	60 61 62 63
60	100									New RB530CM-60 New RB520CM-60	21 22						
V _R (V)	I _O (mA)	Package															
		1608 Size		1212 Size		1616 Size		1616 Size		1616 Size		1616 Size		2120 Size			
		DFN1608-8 (HMD8)	No.	SOT-723 (VMD3)	No.	SOT-416 (EMD3)	No.	SOT-416FL (EMD3F)	No.	SOT-543 (EMD4)	No.	SOT-543 (EMD4)	No.	SOT-323 (UMD3)	No.		
30	30	RB521ZS8A30 RB520ZS8A30	64 65														
	100					RB557W RB558W RB548W	73 75 76	New RB558WM	78	RB481Y RB480Y	85 86						
40	30			RB715Z	66	RB715W RB706W-40	67 77										
	100													RB715F RB717F RB706F-40	68 74 79		
	200											RB481Y-40 RB480Y-40	87 88	RB451F RB450F	81 82		
90	100											RB481Y-90 RB480Y-90	89 90				
V _R (V)	I _O (mA)	Package															
		2120 Size		2120 Size		2120 Size		2924 Size		2928 Size		2928 Size		2928 Size			
		SOT-323FL (UMD3F)	No.	SOT-343 (UMD4)	No.	SOT-363 (UMD6)	No.	SOT-23 (SST3)	No.	SOT-346 (SMD3)	No.	SOT-25 (SMD5)	No.	SOT-457 (SMD6)	No.		
25	400									RB495D	70						
30	30													RB731U	98		
	100					RB531XN RB530XN RB541XN	94 95 96										
	200							New BAT54HM New BAT54SHM New BAT54CHM New BAT54AHM	86 82 70 76								
40	30			RB481K	91	RB731XN	97			RB705D RB706D-40	71 80						
	100	New RB715UM	69							RB425D RB421D RB420D	72 83 84	RB471E	93				
	120							New BAS40HM	87								
	200			RB480K	92												

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Schottky Barrier Diodes

Small Signal Type Schottky Barrier Diodes 1												
Quick Reference No.	Product No.	Absolute Maximum Ratings (T _C =25°C)				Electrical Characteristics (T _J =25°C) ²				Package	Equivalent Circuit Diagram	Automotive Grade Available
	Part No.	V _{RM} (V)	V _R (V)	I _O ¹ (mA)	I _{FSM} (A) ² 60Hz.1~	V _F (V) Max.	I _F (mA)	I _R (μA) Max.	V _R (V)			
1	RASMD New RB521ES-30	30	30	100	0.5	0.37	10	7	10	DSN0603-2 (SMD0603)		—
2	New RB751ZS-40	40	40	30	0.2	0.37	1	0.5	30	SOD-962 (GMD2)		—
3	RB521ZS-30	30	30	100	0.5	0.37	10	7	10			—
4	RB520ZS-30	30	30	100	0.5	0.46	10	0.3	10			—
5	RB521AS-30	30	30	200	1	0.5	200	30	10	DFN1006-2 (VML2)		—
6	RB520AS-30	30	30	200	1	0.6	200	1	10			—
7	New RB540AS-30	30	30	200	0.5	0.45	10	0.5	10			—
8	New RB541AS-30	30	30	200	0.5	0.35	10	30	10			—
9	RB520AS-40	40	40	200	1	0.55	100	10	40			—
10	RB521AS-40	45	40	200	1	0.45	100	90	40			—
11	RB521CS-30	—	30	100	0.5	0.35	10	10	10	SOD-923 (VMN2)		—
12	RB520CS-30	—	30	100	0.5	0.45	10	0.5	10			—
13	RB751CS-40	40	30	30	0.2	0.37	1	0.5	30			—
14	New RB521CM-30	—	30	100	0.5	0.35	10	10	10	SOD-923 (VMN2M)		—
15	New RB520CM-30	—	30	100	0.5	0.45	10	0.5	10			—
16	New RB530CM-30	30	30	100	0.5	0.46	10	0.3	10			—
17	New RB531CM-30	30	30	100	0.5	0.37	10	7	10			—
18	New RB751CM-40	40	30	30	0.2	0.37	1	0.5	30			—
19	New RB520CM-40	40	40	100	0.5	0.71	100	1.5	40			—
20	New RB521CM-40	40	40	100	0.5	0.61	100	100	40			—
21	New RB530CM-60	60	60	100	0.5	0.6	15	1	60			—
22	New RB520CM-60	60	60	100	0.5	0.47	15	3	60			—
23	New RB530G-30	30	30	100	0.5	0.46	10	3	10		SOD-723 (VMD2)	Yes
24	New RB531G-30	30	30	100	0.5	0.37	10	7	10	Yes		
25	RB521G-30	—	30	100	0.5	0.35	10	10	10	Yes		
26	RB520G-30	—	30	100	0.5	0.45	10	0.5	10	Yes		
27	RB751G-40	40	30	30	0.2	0.37	1	0.5	30	Yes		
28	New RB520G-40	40	40	100	0.5	0.71	100	15	40	Yes		
29	New RB521G-40	40	40	100	0.5	0.61	100	100	40	Yes		
30	New RBE02SM20A	30	20	200	1	0.49	200	80	20	SOD-523 (EMD2)	—	
31	New RB510SM-30	30	30	100	0.5	0.46	10	0.3	10		Yes	
32	New RB511SM-30	30	30	100	0.5	0.37	10	7	10		Yes	
33	New RB531SM-30	30	30	200	1	0.35	10	10	10		Yes	
34	New RB530SM-30	30	30	200	1	0.45	10	0.5	10		Yes	
35	RB520SM-30	—	30	200	1	0.58	200	1	10		Yes	
36	RB521SM-30	—	30	200	1	0.47	200	30	10		Yes	
37	New RB500SM-30	30	30	100	0.5	0.45	10	0.5	10		Yes	
38	New RB501SM-30	30	30	100	0.5	0.35	10	10	10		Yes	
39	RB751SM-40	40	30	30	0.2	0.37	1	0.5	30		Yes	
40	New RB530SM-40	40	40	100	0.5	0.71	100	15	40		Yes	
41	New RB531SM-40	40	40	100	0.5	0.61	100	100	40		Yes	
42	New RB540SM-40	40	40	200	0.5	0.71	100	15	40		Yes	
43	New RB541SM-40	40	40	200	0.5	0.61	100	100	40		Yes	
44	RB520SM-40	40	40	200	1	0.55	100	10	40		Yes	
45	RB521SM-40	45	40	200	1	0.45	100	90	40		Yes	
46	RB530VM-30	30	30	100	0.5	0.45	10	0.5	10	SOD-323FL (UMD2)	Yes	
47	New RB510VM-30	30	30	100	0.5	0.46	10	0.3	10		Yes	
48	New RB511VM-30	30	30	100	0.5	0.37	10	7	10		Yes	
49	New RB531VM-30	30	30	100	0.5	0.35	10	10	10		Yes	
50	New RB520VM-30	30	30	200	1	0.58	200	1	10		Yes	
51	New RB521VM-30	30	30	200	1	0.47	200	30	10		Yes	
52	New RB540VM-30	30	30	200	0.5	0.45	10	0.5	10		Yes	
53	New RB541VM-30	30	30	200	0.5	0.35	10	30	10		Yes	
54	New RB550VM-30	30	30	500	1	0.59	500	30	30		Yes	
55	RB751VM-40	40	30	30	0.2	0.37	1	0.5	30		Yes	
56	RB531VM-40	40	40	100	1	0.61	100	100	40		Yes	
57	RB530VM-40	40	40	100	1	0.71	100	15	40		Yes	
58	RB501VM-40	45	40	100	1	0.55	100	30	10		Yes	
59	New RB500VM-40	45	40	100	1	0.45	10	1	10		Yes	
60	New RB540VM-40	40	40	200	0.5	0.71	100	15	40		Yes	
61	New RB541VM-40	40	40	200	0.5	0.61	100	100	40		Yes	
62	New RB521VM-40	40	40	200	1	0.54	200	90	40		Yes	
63	New RB520VM-40	40	40	200	1	0.55	100	10	40		Yes	
64	RB521ZS8A30	30	30	100 ²	0.5	0.37	10	7	10	DFN1608-8 (HMD8)		—
65	RB520ZS8A30	30	30	100 ²	0.5	0.46	10	0.3	10			—

¹ I_O: Average output current per chip. In case of 1, 2 or 3 chip diodes. I_O indicates average output current of 1, 2 or 3 chips.

² Value / Chip

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Small Signal Type Schottky Barrier Diodes 2												
Quick Reference No.	Product No.	Absolute Maximum Ratings (T _c =25°C)				Electrical Characteristics (T _j =25°C) ²				Package	Equivalent Circuit Diagram	Automotive Grade Available
	Part No.	V _{RRM} (V)	V _R (V)	I _O ¹ (mA)	I _{FSM} (A) ² 60Hz, 1ms	V _F (V) Max.	I _F (mA)	I _R (μA) Max.	V _R (V)			
66	RB715Z	40	40	30	0.2	0.37	1	1	10	SOT-723 (VMD3)		Yes
67	RB715W	40	40	30	0.2	0.37	1	1	10	SOT-416 (EMD3)		Yes
68	RB715F	40	40	30	0.2	0.37	1	1	10	SOT-323 (UMD3)		Yes
69	New RB715UM	40	40	30	0.2	0.37	1	1	10	SOT-323FL (UMD3F)		Yes
70	New BAT54CHM	30	30	200	1.0	0.8	100	2	25	SOT-23 (SSD3)		Yes
71	RB495D	40	25	400	2	0.5	200	70	25	SOT-346 (SMD3)		Yes
72	RB705D	40	40	30	0.2	0.37	1	1	10			Yes
73	RB425D	40	40	100	1	0.55	100	30	10			Yes
74	RB557W	—	30	100 ²	0.5	0.35	10	10	10	SOT-416 (EMD3)		Yes
75	RB717F	40	40	30 ²	0.2	0.37	1	1	10	SOT-323 (UMD3)		Yes
76	New BAT54AHM	30	30	200	1.0	0.8	100	2	25	SOT-23 (SSD3)		Yes
77	RB558W	—	30	100 ²	0.5	0.35	10	10	10	SOT-416 (EMD3)		Yes
78	RB548W	—	30	100 ²	0.5	0.45	10	0.5	10			Yes
79	RB706W-40	45	40	30	0.2	0.37	1	1	10			Yes
80	New RB558WM	—	30	100 ²	0.5	0.49	100	10	10	SOT-416FL (EMD3F)		Yes
81	RB706F-40	45	40	30 ²	0.2	0.37	1	1	10	SOT-323 (UMD3)		Yes
82	New BAT54SHM	30	30	200	1.0	0.8	100	2	25	SOT-23 (SSD3)		Yes
83	RB706D-40	45	40	30	0.2	0.37	1	1	10	SOT-346 (SMD3)		Yes
84	RB451F	40	40	100	1	0.55	100	30	10	SOT-323 (UMD3)		Yes
85	RB450F	45	40	100	1	0.45	10	1	10			Yes
86	New BAT54HM	30	30	200	1.0	0.8	100	2	25	SOT-23 (SSD3)		Yes
87	New BAS40HM	40	40	120	—	1.0	40	1	30	SOT-23 (SSD3)		Yes
88	RB421D	40	40	100	1	0.55	100	30	10	SOT-346 (SMD3)		Yes
89	RB420D	40	40	100	1	0.45	10	1	10			Yes
90	RB481Y	—	30	100 ²	1	0.43	100	30	10	SOT-543 (EMD4)		Yes
91	RB480Y	—	30	100 ²	1	0.53	100	1	10			Yes
92	RB481Y-40	40	40	200	1	0.45	100	90	40			Yes
93	RB480Y-40	40	40	200	1	0.55	100	10	40			Yes
94	RB481Y-90	90	90	100 ²	1	0.61	100	100	90			Yes
95	RB480Y-90	90	90	100 ²	1	0.69	100	5	90			Yes
96	RB481K	30	30	200 ²	1	0.5	200	30	10	SOT-343 (UMD4)		Yes
97	RB480K	45	40	100 ²	1	0.6	100	1	10	SOT-25 (SMD5)		Yes
98	RB471E	40	40	100 ²	1	0.55	100	30	10			Yes
99	RB531XN	—	30	100 ²	1	0.43	100	30	10	SOT-363 (UMD6)		Yes
100	RB530XN	—	30	100 ²	1	0.53	100	1	10			Yes
101	RB541XN	—	30	100	0.5	0.35	10	10	10			Yes
102	RB731XN	40	40	30	0.2	0.37	1	1	10			Yes
103	RB731U	40	40	30	0.2	0.37	1	1	10	SOT-457 (SMD6)		Yes

*1 : I_O : Average output current per chip. In case of 1, 2 or 3 chip diodes. I_O indicates average output current of 1, 2 or 3 chips.

*2 : Value / Chip

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● Quick Reference for Small Sizes Power Type Schottky Barrier Diodes

V _F (V)	I _O (A)	Package											
		1006 Size		1608 Size		1608 Size		2512 Size		2120 Size		2928 Size	
													
		DFN1006-2 (VML2)	No.	SOD-523 (EMD2)	No.	DFN1608-2 (KMD2)	No.	SOD-323FL (UMD2)	No.	SOT-323 (UMD3)	No.	SOT-346 (SMD3)	No.
20	0.5	RBE05AS20A	1	RBE05SM20A	2	RB551SS-30	3	RB551VM-30 RBE05VM20A	7 8			RB411D	183
	0.7							RBEO7V20A	9	RB461F	181		
	1					RB161SS-20	4					RB491D	182
30	0.5					RB550SS-30	5						
40	0.5											RB400D	184
	1					RB160SS-40	6						

Schottky Barrier Diodes

Small Size Power Type Schottky Barrier Diodes 1												
Quick Reference No.	Product No.	Absolute Maximum Ratings (T _C =25°C)				Electrical Characteristics (T _J =25°C)				Package	Equivalent Circuit Diagram	Automotive Grade Available
	Part No.	V _{FRM} (V)	V _R (V)	I _O (A)	I _{FSM} (A) 60Hz,1~	V _F (V) Max.	I _F (A)	I _R (mA) Max.	V _R (V)			
1	RBE05AS20A	30	20	0.5	1	0.53	0.5	0.15	20	DFN1006-2 (VML2)		—
2	RBE05SM20A	30	20	0.5	1	0.53	0.5	0.15	20	SOD-523 (EMD2)		—
3	RB551SS-30	30	20	0.5	5	0.47	0.5	0.1	20	DFN1608-2 (KMD2)		—
4	RB161SS-20	30	20	1	5	0.42	1	1	20			—
5	RB550SS-30	30	30	0.5	5	0.59	0.5	0.008	15			—
6	RB160SS-40	40	40	1	5	0.55	0.7	0.05	20			—
7	RB551VM-30	30	20	0.5	2	0.36	0.1	0.1	20	SOD-323FL (UMD2)		—
8	RBE05VM20A	30	20	0.5	2	0.43	0.5	0.2	20			—
9	RBE07V20A	30	20	0.7	1	0.43	0.5	0.2	20			—

Small Size Power Type Schottky Barrier Diodes 2												
Quick Reference No.	Product No.	Absolute Maximum Ratings (T _C =25°C)				Electrical Characteristics (T _J =25°C)				Package	Equivalent Circuit Diagram	Automotive Grade Available
	Part No.	V _{RM} (V)	V _R (V)	I _O (A)	I _{FSM} (A) 60Hz,1~	V _F (V) Max.	I _F (A)	I _R (mA) Max.	V _R (V)			
181	RB461F	25	20	0.7	3	0.49	0.7	0.2	20	SOT-323 (UMD3)		—
182	RB491D	25	20	1	3	0.45	1	0.2	20	SOT-346 (SMD3)		—
183	RB411D	40	20	0.5	3	0.5	0.5	0.03	10			Yes
184	RB400D	40	40	0.5	3	0.55	0.5	0.05	30			Yes

Fast Recovery Diodes

● Quick Reference for Fast Recovery Diodes

V _{RM} (V)	I _O (A)	Surface Mount Type					
		1006 Size DFN1006-2 (VML2)	No.	1608 Size SOD-523 (EMD2)	No.	2512 Size SOD-323FL (UMD2)	No.
100	0.5						
200	0.1					RF01VM2S	3
450	0.1	RFU01AS4S	1	RFU01SM4S	2		

Fast Recovery Diodes																
Quick Reference No.	Product No.	Absolute Maximum Ratings (T _C =25°C)				Electrical Characteristics (T _J =25°C)							Package	Equivalent Circuit Diagram	Automotive Grade Available	
	Part No.	V _{RM} (V)	V _R (V)	I _O (A)	I _{FSM} (A) 60Hz, 1 ϕ	V _F (V) Max.	I _F (A)		I _R (μA) Max.	t _{rr} (ns) Max.		I _R (A)				
1	RFU01AS4S	450	450	0.1	1	1.8	0.1	10	450	35	0.1	0.1	DFN1006-2 (VML2)		—	
2	RFU01SM4S	450	450	0.1	1	1.8	0.1	10	450	35	0.1	0.1	SOD-523 (EMD2)		Yes	
3	RF01VM2S	250	250	0.1	1	1.2	0.1	10	250	50	*		SOD-323FL (UMD2)		Yes	

*V_{RM}=6V, I_F=10mA, I_{RR}=0.1I_N

Protection Diodes

● Quick Reference for Protection Devices [2-4 Elements]

V _Z (V)	Package						
	1212 Size	1616 Size	1616 Size	2120 Size	2120 Size	2928 Size	2928 Size
							
	SOT-723 (VMD3)	SOT-416 (EMD3)	SOT-553 (EMD5)	SOT-323 (UMD3)	SOT-353 (UMD5)	SOT-346 (SMD3)	SOT-25 (SMD5)
4.3							FTZ4.3E
5.1				UMZ5.1N			
5.6						STZ5.6N	FTZ5.6E
6.2						STZ6.2N	
6.8	VMZ6.8N	EMZ6.8N	EMZ6.8E	UMZ6.8N	UMZ6.8EN	STZ6.8T STZ6.8N	FTZ6.8E
8.2				UMZ8.2T UMZ8.2N			
12				UMZ12N			
16				UMZ16N			
18				UMZ18N			
27				UMZ27N			
30				UMZ30N			FTZ30E
36				UMZ36N			

● Quick Reference for Low Capacitance Protection Devices

V _Z (V)	Package											
	0603 Size	1006 Size	1212 Size	1608 Size	1616 Size	1616 Size	1616 Size	2512 Size	2120 Size	2928 Size	2928 Size	1006 Size
												
	DSN0603-2 (SMD0603)	SOD-923 (VMN2)	SOT-723 (VMD3)	SOD-523 (EMD2)	SOT-416 (EMD3)	SOT-553 (EMD5)	SOT-563 (EMD6)	SOD-323FL (UMD2)	SOT-323 (UMD3)	SOT-346 (SMD3)	SOT-25 (SMD5)	SOD-923 (VMN2M)
5.1												CDZCV5.1
5.6								UDZU5.6B				
6.2								New UDZU6.2	UMZU6.2N		FTZU6.2E	
6.6	New VS5V0BA1ES											
6.8		CDZC6.8B RSAC6.8CS	VMZT6.8N	New EDZCV6.8B	EMZC6.8N	EMZT6.8E	RSB6.8JS2		UMZC6.8N	STZC6.8N		RSAC6.8CM
12			RSB12Z		RSB12W		RSB12JS2					
16		RSAC16CS										
18		RSAC18CS										

● Quick Reference for ESD Protection Diodes

V _Z (V)	Package		
	1616 Size	2120 Size	2928 Size
			
	SOT-553 (EMD5)	SOT-353 (UMD5)	SOT-457 (SMD6)
6	RSA6.1J4	RSA6.1EN	RSA6.1U5

● Quick Reference for Bi-Directional Zener Diodes

V _Z (V)	Package								
	0603 Size	1006 Size	1406 Size	1608 Size	2512 Size	2120 Size			1006 Size
									
	SOD-962 (GMD2)	SOD-923 (VMN2)	SOD-723 (VMD2)	SOD-523 (EMD2)	SOD-323FL (UMD2)	SOT-323 (UMD3)	SOT-343 (UMD4)	SOT-363 (UMD6)	SOD-923 (VMN2M)
5.6				RSB5.6SM					
6.8	RSB6.8ZS	RSB6.8CS	RSB6.8G	RSB6.8SM		RSB6.8F2			RSB6.8CM
12					RSB12V				
16					RSB16V	RSB16F2		RSB16X3N	
18					RSB18V	RSB18F2			
27					RSB27V	RSB27F2	RSB27K2		
29					RSB33V	RSB33F2			
32					RSB36V	RSB36F2			
35					RSB39V	RSB39F2			

● Quick Reference for Ultra Low Capacitance Bi-Directional Zener Diodes

V _Z (V)	Package	
	1006 Size	
		
	SOD-923 (VMN2)	
6.8	RSBC6.8CS	



Protection Diodes

ESD Protection Devices									
Product No.	Absolute Maximum Ratings (Ta=25°C)	Electrical Characteristics (Ta=25°C)		Peak Pulse Power (W) (tp=10×1000μs)	Package	Equivalent Circuit Diagram	Automotive Grade Available		
	P (mW)	Vz (V)	Iz (mA)						
RSA6.1J4	150	6.10 to 7.20	1	10	SOT-553 (EMD5)		Yes		
RSA6.1EN	200	6.10 to 7.20	1	30	SOT-353 (UMD5)		Yes		
RSA6.1U5	200	6.10 to 7.20	1	30	SOT-457 (SMD6)		Yes		
Bi-Directional Zener Diodes									
Product No.	Absolute Maximum Ratings (Ta=25°C)	Electrical Characteristics (Ta=25°C)		Remarks	Package	Equivalent Circuit Diagram	Automotive Grade Available		
	P (mW)	Vz (V)	Iz (mA)						
RSB6.8ZS	100	5.78 to 7.82	1	IEC61000-4-2 150pF,330Ω Contact 8kV Air 15kV	SOD-962 (GMD2)		—		
RSB6.8CS	100	5.78 to 7.82	1		SOD-923 (VMN2)		Yes		
RSB6.8CM	100	5.78 to 7.82	1		SOD-923 (VMN2M)		—		
RSB6.8G	100	5.78 to 7.82	1		SOD-723 (VMD2)		Yes		
RSB5.6SM	150	4.76 to 6.44	1		SOD-523 (EMD2)		Yes		
RSB6.8SM	150	5.78 to 7.82	1		SOD-523 (EMD2)		Yes		
RSB12V	200	10.8 to 13.2	1		SOD-323FL (UMD2)			Yes	
RSB16V	200	14.4 to 17.6	1					Yes	
RSB18V	200	16.2 to 19.8	1					Yes	
RSB27V	200	26.2 to 32.0	1					Yes	
RSB33V	200	29.7 to 36.3	1					Yes	
RSB36V	200	32.4 to 39.6	1					Yes	
RSB39V	200	35.1 to 42.9	1					Yes	
RSB6.8F2	200	5.78 to 7.82	1		SOT-323 (UMD3)		Yes		
RSB16F2	200	14.4 to 17.6	1				Yes		
RSB18F2	200	16.2 to 19.8	1				Yes		
RSB27F2	200	26.2 to 32.0	1				Yes		
RSB33F2	200	29.7 to 36.3	1				Yes		
RSB36F2	200	32.4 to 39.6	1				Yes		
RSB39F2	200	35.1 to 42.9	1				Yes		
RSB27K2	200	26.2 to 32.0	1		SOT-343 (UMD4)		Yes		
RSB16X3N	200	14.4 to 17.6	1		SOT-363 (UMD6)		Yes		
Ultra Low Capacitance Bi-Directional Zener Diodes									
Product No.	Absolute Maximum Ratings (Ta=25°C)	Electrical Characteristics (Ta=25°C)					Package	Equivalent Circuit Diagram	Automotive Grade Available
	P (mW)	Vz (V)	Iz (mA)	Ci (pF)	f (MHz)	Vr (V)			
RSBC6.8CS	100	6.62 to 7.24	5	1	1	0	SOD-923 (VMN2)		—

General TVS														
Product No.	Absolute Maximum Ratings (Ta=25°C)			Electrical Characteristics (Ta=25°C)					Package	Equivalent Circuit Diagram	Automotive Grade Available			
	P _{PP} (W) (tp=10/1000us)	P (mW)	V _{ESD} [*] (kV)	V _{RWM} (V) Max.	V _{BR} (V)	I _R (mA)	C _T (pF)	V _R (V)						
Part No.														
<i>New</i> MMBZ5V6AL	24	225	±30	3	5.32 to 5.88	20	230	0	SOT-23 (SSD3)		Yes			
<i>New</i> MMBZ6V2AL	24	225	±30	3	5.89 to 6.51	1	185	0			Yes			
<i>New</i> MMBZ6V8AL	24	225	±30	4.5	6.46 to 7.14	1	165	0			Yes			
<i>New</i> MMBZ9V1AL	24	225	±30	6	8.65 to 9.56	1	125	0			Yes			
<i>New</i> MMBZ10VAL	24	225	±30	6.5	9.5 to 10.5	1	110	0			Yes			
<i>New</i> MMBZ12VAL	40	225	±30	8.5	11.4 to 12.6	1	85	0			Yes			
<i>New</i> MMBZ15VAL	40	225	±30	12	14.25 to 15.75	1	80	0			Yes			
<i>New</i> MMBZ16VAL	40	225	±30	13	15.2 to 16.8	1	70	0			Yes			
<i>New</i> MMBZ18VAL	40	225	±30	14.5	17.1 to 18.9	1	65	0			Yes			
<i>New</i> MMBZ20VAL	40	225	±30	17	19 to 21	1	60	0			Yes			
<i>New</i> MMBZ24VAL	40	225	±30	20	22.8 to 25.2	1	48	0			Yes			
<i>New</i> MMBZ27VAL	40	225	±30	22	25.65 to 28.35	1	44	0			Yes			
<i>New</i> MMBZ30VAL	40	225	±30	24	28.5 to 31.5	1	40	0			Yes			
<i>New</i> MMBZ33VAL	40	225	±30	26	31.35 to 34.65	1	36	0			Yes			
<i>New</i> MMBZ27VCL	40	225	±30	22	25.65 to 28.35	1	—	—			Yes			
<i>New</i> RESD1CAN	350	225	30	24	26.2 to 32	1	30	0			Yes			
Low Capacitance TVS														
Product No.	Absolute Maximum Ratings (Ta=25°C)				Electrical Characteristics (Ta=25°C)						Package	Equivalent Circuit Diagram	Automotive Grade Available	
	P _{PP} (W) (tp=8/20us)	P (mW)	V _{ESD} [*] (kV)	I _{PP} (A)	V _{RWM} (V)	V _{BR} (V)	I _R (mA)	V _{CL} (V)	I _{PP} (A)	C _T (pF)				V _R (V)
<i>New</i> VS5V0BA1ES	10	100	±15	1	5	6.0 to 8	1	11.4	1	5	0	DSN0603-2 (SMD0603)		—
<i>New</i> VS5V0BB1ES	25	100	±15	2.2	5	6.0 to 9	1	12.8	2.2	7	0	DSN0603-2 (SMD0603)		—
<i>New</i> VS5V0BC1ES	60	100	±15	5	5	6.0 to 9	1	15	5	15	0	DSN0603-2 (SMD0603)		—
RSB6.8CM	50	100	±8	3	5	5.78 to 7.82	1	16	3	15	0	SOD-923 (VMN2M)		—

*: IEC61000-4-2 Contact mode

Zener Diodes

2-Terminal (Single) Zener Diodes																				
Package	Surface Mount Type																			
																				
	0603 Size DSN0603-2 (SMD0603)			0603 Size SOD-962 (GMD2)			1006 Size SOD-923 (VMN2)			1006 Size SOD-923 (VMN2M)			1608 Size SOD-523 (EMD2)							
Equivalent Circuit Diagram																				
Series Name	New SDZ Series			GDZ Series			CDZ Series			New CDZ V Series			EDZ V Series							
Power(mW)	100			100			100			100			150							
Taping Code	T15R			T2R			T2RA			T2RA			T2R							
Electrical Characteristics (Ta=25°C)	V _Z (V)	I _Z (mA)	Automotive Grade Available	V _Z (V)	I _Z (mA)	Automotive Grade Available	V _Z (V)	I _Z (mA)	Automotive Grade Available	V _Z (V)	I _Z (mA)	Automotive Grade Available	V _Z (V)	I _Z (mA)	Automotive Grade Available					
Voltage	—	—	—	—	—	—	2.0B	2.02 to 2.20	5	Yes	2.0B	2.02 to 2.20	5	—	2.0B	2.02 to 2.20	5	Yes		
	—	—	—	—	—	—	2.2B	2.22 to 2.41	5	Yes	2.2B	2.22 to 2.41	5	—	2.2B	2.22 to 2.41	5	Yes		
	—	—	—	—	—	—	2.4B	2.43 to 2.63	5	Yes	2.4B	2.43 to 2.63	5	—	2.4B	2.43 to 2.63	5	Yes		
	—	—	—	—	—	—	2.7B	2.69 to 2.91	5	Yes	2.7B	2.69 to 2.91	5	—	2.7B	2.69 to 2.91	5	Yes		
	—	—	—	—	—	—	3.0B	3.01 to 3.22	5	Yes	3.0B	3.01 to 3.22	5	—	3.0B	3.01 to 3.22	5	Yes		
	—	—	—	—	—	—	3.3B	3.32 to 3.53	5	Yes	3.3B	3.32 to 3.53	5	—	3.3B	3.32 to 3.53	5	Yes		
	—	—	—	—	—	—	3.6B	3.600 to 3.845	5	Yes	3.6B	3.60 to 3.85	5	—	3.6B	3.600 to 3.845	5	Yes		
	—	—	—	3.9	3.74 to 4.16	5	—	3.9B	3.89 to 4.16	5	Yes	3.9B	3.89 to 4.16	5	—	3.9B	3.89 to 4.16	5	Yes	
	—	—	—	—	—	—	4.3B	4.17 to 4.43	5	Yes	4.3B	4.17 to 4.43	5	—	4.3B	4.17 to 4.43	5	Yes		
	—	—	—	4.7	4.42 to 4.90	5	—	4.7B	4.55 to 4.75	5	Yes	4.7B	4.55 to 4.75	5	—	4.7B	4.55 to 4.75	5	Yes	
	5.1	4.84 to 5.37	5	—	5.1	4.84 to 5.37	5	—	5.1B	4.98 to 5.20	5	Yes	5.1B	4.98 to 5.20	5	—	5.1B	4.98 to 5.20	5	Yes
	5.6	5.31 to 5.92	5	—	5.6	5.31 to 5.92	5	—	5.6B	5.49 to 5.73	5	Yes	5.6B	5.49 to 5.73	5	—	5.6B	5.49 to 5.73	5	Yes
	6.2	5.86 to 6.53	5	—	6.2	5.86 to 6.53	5	—	6.2B	6.06 to 6.33	5	Yes	6.2B	6.06 to 6.33	5	—	6.2B	6.06 to 6.33	5	Yes
	6.8	6.47 to 7.14	5	—	6.8	6.47 to 7.14	5	—	6.8B	6.65 to 6.93	5	Yes	6.8B	6.65 to 6.93	5	—	6.8B	6.65 to 6.93	5	Yes
	7.5	7.06 to 7.84	5	—	7.5	7.06 to 7.84	5	—	7.5B	7.28 to 7.60	5	Yes	7.5B	7.28 to 7.60	5	—	7.5B	7.28 to 7.60	5	Yes
	8.2	7.76 to 8.64	5	—	8.2	7.76 to 8.64	5	—	8.2B	8.02 to 8.36	5	Yes	8.2B	8.02 to 8.36	5	—	8.2B	8.02 to 8.36	5	Yes
	—	—	—	—	—	—	—	9.1B	8.85 to 9.23	5	Yes	9.1B	8.85 to 9.23	5	—	9.1B	8.85 to 9.23	5	Yes	
	—	—	—	—	—	—	—	10B	9.77 to 10.21	5	Yes	10B	9.77 to 10.21	5	—	10B	9.77 to 10.21	5	Yes	
	—	—	—	—	—	—	—	11B	10.76 to 11.22	5	Yes	11B	10.76 to 11.22	5	—	11B	10.76 to 11.22	5	Yes	
	—	—	—	—	—	—	—	12B	11.74 to 12.24	5	Yes	12B	11.74 to 12.24	5	—	12B	11.74 to 12.24	5	Yes	
	—	—	—	—	—	—	—	13B	12.91 to 13.49	5	Yes	13B	12.91 to 13.49	5	—	13B	12.91 to 13.49	5	Yes	
	—	—	—	—	—	—	—	15B	14.34 to 14.98	5	Yes	15B	14.34 to 14.98	5	—	15B	14.34 to 14.98	5	Yes	
	—	—	—	—	—	—	—	16B	15.85 to 16.51	5	Yes	16B	15.85 to 16.51	5	—	16B	15.85 to 16.51	5	Yes	
	—	—	—	—	—	—	—	18B	17.56 to 18.35	2	Yes	18B	17.56 to 18.35	2	—	18B	17.56 to 18.35	5	Yes	
	—	—	—	—	—	—	—	20B	19.52 to 20.39	2	Yes	20B	19.52 to 20.39	2	—	20B	19.52 to 20.39	5	Yes	
	—	—	—	—	—	—	—	22B	21.54 to 22.47	2	Yes	22B	21.54 to 22.47	2	—	22B	21.54 to 22.47	5	Yes	
	—	—	—	—	—	—	—	24B	23.72 to 24.78	2	Yes	24B	23.72 to 24.78	2	—	24B	23.72 to 24.78	5	Yes	
	—	—	—	—	—	—	—	27B	26.19 to 27.53	2	Yes	27B	26.19 to 27.53	2	—	27B	26.19 to 27.53	2	Yes	
	—	—	—	—	—	—	—	30B	29.19 to 30.69	2	Yes	30B	29.19 to 30.69	2	—	30B	29.19 to 30.69	2	Yes	
	—	—	—	—	—	—	—	33B	32.15 to 33.79	2	Yes	33B	32.15 to 33.79	2	—	33B	32.15 to 33.79	2	Yes	
	—	—	—	—	—	—	—	36B	35.07 to 36.87	2	Yes	36B	35.07 to 36.87	2	—	36B	35.07 to 36.87	2	Yes	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

2,3-Terminal (Single) 4-Terminal (Dual) Zener Diodes																
Package	Surface Mount Type															
																
	2512 Size SOD-323FL (UMD2)				2512 Size SOD-323FL (UMD2)				2924 Size SOT-23 (SSD3)				2120 Size SOT-343 (UMD4)			
Equivalent Circuit Diagram																
Series Name	UDZ V Series				UDZ LV Series				BZX84C L Series				UMZ K Series			
Power(mW)	200				200				225				200			
Taping Code	TE-17				TE-17				T116				TL			
Electrical Characteristics (Ta=25°C)	V _Z (V)	I _Z (mA)	Automotive Grade Available	V _Z (V)	I _Z (mA)	Automotive Grade Available	V _Z (V)	I _Z (mA)	Automotive Grade Available	V _Z (V)	I _Z (mA)	Automotive Grade Available				
Voltage	2.0B	2.02 to 2.20	5	Yes	—	—	—	—	2V0	—	—	—	—	—	—	
	2.2B	2.22 to 2.41	5	Yes	—	—	—	—	2V2	—	—	—	—	—	—	
	2.4B	2.43 to 2.63	5	Yes	—	—	—	—	2V4	2.2 to 2.6	5	Yes	—	—	—	
	2.7B	2.69 to 2.91	5	Yes	—	—	—	—	2V7	2.5 to 2.9	5	Yes	—	—	—	
	3.0B	3.01 to 3.22	5	Yes	—	—	—	—	3V0	2.8 to 3.2	5	Yes	—	—	—	
	3.3B	3.32 to 3.53	5	Yes	—	—	—	—	3V3	3.1 to 3.5	5	Yes	—	—	—	
	3.6B	3.600 to 3.845	5	Yes	—	—	—	—	3V6	3.4 to 3.8	5	Yes	3.6K	3.600 to 3.845	5	Yes
	3.9B	3.89 to 4.16	5	Yes	—	—	—	—	3V9	3.7 to 4.1	5	Yes	3.9K	3.89 to 4.16	5	Yes
	4.3B	4.17 to 4.43	5	Yes	—	—	—	—	4V3	4 to 4.6	5	Yes	4.3K	4.17 to 4.43	5	Yes
	4.7B	4.55 to 4.75	5	Yes	—	—	—	—	4V7	4.4 to 5	5	Yes	4.7K	4.55 to 4.75	5	Yes
	5.1B	4.98 to 5.20	5	Yes	—	—	—	—	5V1	4.8 to 5.4	5	Yes	5.1K	4.98 to 5.20	5	Yes
	5.6B	5.49 to 5.73	5	Yes	—	—	—	—	5V6	5.2 to 6	5	Yes	5.6K	5.49 to 5.73	5	Yes
	6.2B	6.06 to 6.33	5	Yes	—	—	—	—	6V2	5.8 to 6.6	5	Yes	6.2K	6.06 to 6.33	5	Yes
	6.8B	6.65 to 6.93	5	Yes	—	—	—	—	6V8	6.4 to 7.2	5	Yes	6.8K	6.65 to 6.93	5	Yes
	7.5B	7.28 to 7.60	5	Yes	—	—	—	—	7V5	7 to 7.9	5	Yes	7.5K	7.28 to 7.60	5	Yes
	8.2B	8.02 to 8.36	5	Yes	—	—	—	—	8V2	7.7 to 8.7	5	Yes	8.2K	8.02 to 8.36	5	Yes
	9.1B	8.85 to 9.23	5	Yes	—	—	—	—	9V1	8.5 to 9.6	5	Yes	9.1K	8.85 to 9.23	5	Yes
	10B	9.77 to 10.21	5	Yes	—	—	—	—	10V	9.4 to 10.6	5	Yes	10K	9.77 to 10.21	5	Yes
	11B	10.76 to 11.22	5	Yes	—	—	—	—	11V	10.4 to 11.6	5	Yes	11K	10.76 to 11.22	5	Yes
	12B	11.74 to 12.24	5	Yes	—	—	—	—	12V	11.4 to 12.7	5	Yes	12K	11.74 to 12.24	5	Yes
	13B	12.91 to 13.49	5	Yes	—	—	—	—	13V	12.4 to 14.1	5	Yes	13K	12.91 to 13.49	5	Yes
	15B	14.34 to 14.98	5	Yes	—	—	—	—	15V	13.8 to 15.6	5	Yes	15K	14.34 to 14.98	5	Yes
	16B	15.85 to 16.51	5	Yes	51	48 to 54	2	Yes	16V	15.3 to 17.1	5	Yes	16K	15.85 to 16.51	5	Yes
	18B	17.56 to 18.35	5	Yes	56	53 to 60	2	Yes	18V	16.8 to 19.1	5	Yes	18K	17.56 to 18.35	5	Yes
	20B	19.52 to 20.39	5	Yes	62	58 to 66	2	Yes	20V	18.8 to 21.2	5	Yes	20K	19.52 to 20.39	5	Yes
	22B	21.54 to 22.47	5	Yes	68	64 to 72	2	Yes	22V	20.8 to 23.3	5	Yes	22K	21.54 to 22.47	5	Yes
	24B	23.72 to 24.78	5	Yes	75	70 to 79	2	Yes	24V	22.8 to 25.6	5	Yes	24K	23.72 to 24.78	5	Yes
	27B	26.19 to 27.53	5	Yes	82	77 to 87	2	Yes	27V	25.1 to 28.9	2	Yes	27K	26.19 to 27.53	5	Yes
	30B	29.19 to 30.69	5	Yes	91	85 to 96	1	Yes	30V	28 to 32	2	Yes	30K	29.19 to 30.69	5	Yes
	33B	32.15 to 33.79	5	Yes	100	94 to 106	1	Yes	33V	31 to 35	2	Yes	33K	32.15 to 33.79	5	Yes
	36B	35.07 to 36.87	5	Yes	110	104 to 116	1	Yes	36V	34 to 38	2	Yes	36K	35.07 to 36.87	5	Yes
	39B	38.02 to 39.98	2	Yes	120	114 to 126	1	Yes	—	—	—	—	—	—	—	—
	UDZV43	40.00 to 45.00	2	Yes	130	122 to 138	1	Yes	—	—	—	—	—	—	—	—
	UDZV47	44.00 to 49.00	2	Yes	150	140 to 160	1	Yes	—	—	—	—	—	—	—	—

Switching Diodes

Switching Diodes

● Quick Reference for Switching Diodes

V _R (V)	Package																	
	1006 Size	1406 Size	1212 Size	1608 Size	1616 Size		1616 Size		2512 Size	2120 Size					2928 Size			
																		
	SOD-923 (VMN2)	SOD-723 (VMD2)	SOT-723 (VMD3)	SOD-523 (EMD2)	SOT-416 (EMD3)	SOT-416FL (EMD3F)	SOT-543 (EMD4)	SOT-563 (EMD6)	SOD-323FL (UMD2)	SOT-323 (UMD3)	SOT-323FL (UMD3F)	SOT-343 (UMD4)	SOT-353 (UMD5)	SOT-363 (UMD6)	SOT-23 (SSD3)	SOT-346 (SMD3)	SOT-25 (SMD5)	SOT-457 (SMD6)
20			DA221M		DA221					DA204U					New BAS16HM	DA204K		
40									1SS380									
75 to 90	1SS400CS	1SS400G	DAN222M DAP222M	1SS400SM	DAN217W DAN222 DAP222 ☆DA228W	DAN222WM DAP222WM	DA227Y	EMN11 EMP11	1SS355VM	DA228U DAN202U DAN217U DAP202U DA380U	DAN202UM DAP202UM DAN217UM	DA227	UMN1N UMP1N	UMN10N UMN11N UMP11N UMR11N UMR12N UMN20N	New BAW56HM New BAW156HM New BAV70HM New BAV170HM New BAV99HM New BAV199HM	DA228K DAN202K DAN217 DAP202K	FMN1 FMP1	IMN10 IMN11 IMP11
															New BAS21HM			
250															New BAS21HM			

☆ : Under Development

High-speed type

Product No.	Absolute Maximum Ratings (Ta=25°C) ⁻¹					Electrical Characteristics (Ta=25°C) ⁻¹								Package	Equivalent Circuit Diagram	Automotive Grade Available
	V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{surge} (mA)	V _F (V) Max.	I _F (mA)	I _R (μA) Max.	V _R (V)	t _{rr} (ns) Max.	V _R (V)	I _F (mA)				
Part No.																
1SS400CS	90	80	—	100	500(1s)	1.2	100	0.1	80	4	6	10	SOD-923 (VMN2)		Yes	
1SS400G	90	80	—	100	500(1s)	1.2	100	0.1	80	4	6	10	SOD-723 (VMD2)		Yes	
1SS400SM	90	80	225	100	500(1s)	1.2	100	0.1	80	4	6	10	SOD-523 (EMD2)		Yes	
1SS355VM	90	80	225	100	500(1s)	1.2	100	0.1	80	4	6	10	SOD-323FL (UMD2)		Yes	
New BAS16HM	100	80	500	215*2	4000(1μs)	1.25	150	0.1	80	4	10	10	SOT-23 (SSD3)		Yes	
New BAS21HM	250	200	625	200*2	4000(1μs)	1.25	200	0.1	200	tbd	tbd	tbd			Yes	
DAN222M	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-723 (VMD3)		Yes	
DAN222	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-416 (EMD3)		Yes	
DAN222WM	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-416FL (EMD3F)		Yes	
DAN202U	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-323 (UMD3)		Yes	
DAN202UM	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-323FL (UMD3F)		Yes	
DAN202K	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-346 (SMD3)		Yes	
New BAV70HM	90	80	450	215*2	4000(1μs)	1.25	150	0.5	80	4	10	10	SOT-23 (SSD3)		Yes	
DAP222M	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-723 (VMD3)		Yes	
DAP222	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-416 (EMD3)		Yes	
DAP222WM	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-416FL (EMD3F)		Yes	
DAP202U	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-323 (UMD3)		Yes	
DAP202UM	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-323FL (UMD3F)		Yes	
DAP202K	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-346 (SMD3)		Yes	
New BAW56HM	100	80	500	215*2	4000(1μs)	1.25	150	0.1	80	4	10	10	SOT-23 (SSD3)		Yes	
DA221M	20	20	200	100	300(1μs)	1.0	10	0.1	15	—	—	—	SOT-723 (VMD3)		Yes	
DA221	20	20	200	100	300(1μs)	1.0	10	0.1	15	—	—	—	SOT-416 (EMD3)	Yes		
DAN217W	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5		Yes		
☆DA228W	80	80	200	100	300(1μs)	1.2	100	0.1	80	—	—	—		Yes		
DA204U	20	20	200	100	300(1μs)	1.0	10	0.1	15	—	—	—	SOT-323 (UMD3)	Yes		
DAN217U	80	80	300	100	4000(1μs)	1.2	100	0.2	70	4	6	5		Yes		
DAN217UM	80	80	300	100	4000(1μs)	1.2	100	0.2	70	4	6	5		SOT-323FL (UMD3F)	Yes	
DA228U	80	80	200	100	300(1μs)	1.2	100	0.1	80	—	—	—	SOT-323 (UMD3)		Yes	
DAN217	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-346 (SMD3)		Yes	
DA228K	80	80	200	100	300(1μs)	1.2	100	0.1	80	—	—	—			Yes	
DA204K	20	20	200	100	300(1μs)	1.0	10	0.1	15	—	—	—		Yes		
New BAV99HM	100	80	500	215*2	4000(1μs)	1.25	150	0.1	80	4	10	10	SOT-23 (SSD3)		Yes	
UMN1N	80	80	80	25	250(1μs)	0.9	5	0.1	70	4	6	5	SOT-353 (UMD5)		Yes	
FMN1	80	80	80	25	250(1μs)	0.9	5	0.1	70	4	6	5	SOT-25 (SMD5)		Yes	
UMP1N	80	80	80	25	250(1μs)	0.9	5	0.1	70	4	6	5	SOT-353 (UMD5)		Yes	
FMP1	80	80	80	25	250(1μs)	0.9	5	0.1	70	4	6	5	SOT-25 (SMD5)		Yes	
EMN11	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-563 (EMD6)		Yes	
UMN11N	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-363 (UMD6)		Yes	
IMN11	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-457 (SMD6)		Yes	
EMP11	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-563 (EMD6)		Yes	
UMP11N	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-363 (UMD6)		Yes	
IMP11	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-457 (SMD6)		Yes	
UMR11N	80	80	300	100	400(1μs)	1.2	100	0.1	70	4	6	5	SOT-363 (UMD6)			Yes
UMR12N	80	80	200	100	300(1μs)	1.2	100	0.1	80	—	—	—	SOT-363 (UMD6)		Yes	
DA227Y	80	80	300	100	400(1μs)	1.2	100	0.1	70	4	6	5	SOT-543 (EMD4)		Yes	
DA227	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-343 (UMD4)		Yes	
UMN10N	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-363 (UMD6)		Yes	
IMN10	80	80	300	100	4000(1μs)	1.2	100	0.1	70	4	6	5	SOT-457 (SMD6)		Yes	

*1 : Value / Chip

*2 : IF

☆ : Under Development

Switching Diodes

Low Leak type													
Product No.	Absolute Maximum Ratings (Ta=25°C)					Electrical Characteristics (Ta=25°C)							Package
	V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	Isurge (mA)	V _F (V) Max.	I _F (mA)	I _R (μA) Max.	V _R (V)	t _{rr} (μs) Max.	V _R (V)	I _F (mA)	
1SS380	40	35	225	100	400 (1s)	1.2	100	0.01	20	—	—	—	SOD-323FL (UMD2)
DA380U	80	80	225	100	400 (1s)	1.2	100	0.01	20	—	—	—	SOT-323 (UMD3)
UMN20N	80	80	225	100	400 (1s)	1.2	100	0.01	20	—	—	—	SOT-363 (UMD6)
New BAW156HM	100	80	500	215*	4000 (1μs)	1.25	150	0.005	75	3	10	10	SOT-23 (SSD3)
New BAV170HM	90	80	500	215*	4000 (1μs)	1.25	150	0.005	75	3	10	10	
New BAV199HM	100	80	500	215*	4000 (1μs)	1.25	150	0.005	75	3	10	10	
													Equivalent Circuit Diagram
													Automotive Grade Available

*: IF

High Frequency Diodes

Quick Reference for High Frequency Diodes

	V _R (V)	Package										
		0603 Size	1006 Size	1406 Size	1608 Size	1616 Size	1616 Size	2512 Size	2120 Size	2928 Size	1608 Size	2408 Size
		SOD-962 (GMD2)	SOD-923 (VMN2)	SOD-723 (VMD2)	SOD-523 (EMD2)	SOT-416 (EMD3)	SOT-543 (EMD4)	SOD-323FL (UMD2)	SOT-323 (UMD3)	SOT-346 (SMD3)	DFN1608-8 (HMD8)	DFN2408-12 (HMD12)
Band Switching Diodes	35				1SS390	DAN235E		1SS356	DAN235U DAP236U			
PIN Diodes	30		RN242CS RN262CS	RN262G							RN142ZS8A	RN142ZS12A
	50			RN141G	RN141S			RN731V RN771V	RN739F RN779F	RN779D		
	60	RN142ZS		RN142G	RN142S							
Detection Schottky Diodes	3						RB851Y					
	5		RB886CS	RB886G		RB876W	RB861Y					
	15						RB886Y					

Band Switching Diodes													
Product No.	Absolute Maximum Ratings (Ta=25°C)*				Electrical Characteristics (Ta=25°C)*						Package	Equivalent Circuit Diagram	Automotive Grade Available
	V _R (V)	T _J (°C)	Tstg (°C)		Ct (pF) Max.			rF (Ω)Max.					
Part No.					V _R (V)	f (MHz)		I _F (mA)	f (MHz)				
1SS390	35	125	-55 to +125		1.2	6	1	0.9	2	100	SOD-523 (EMD2)		Yes
1SS356	35	125	-55 to +125		1.2	6	1	0.9	2	100	SOD-323FL (UMD2)		Yes
DAN235E	35	125	-55 to +125		1.2	6	1	0.9	2	100	SOT-416 (EMD3)		Yes
DAN235U	35	125	-55 to +125		1.2	6	1	0.9	2	100	SOT-323 (UMD3)		Yes
DAP236U	35	125	-55 to +125		1.2	6	1	0.9	2	100	SOT-323 (UMD3)		Yes
PIN Diodes													
Product No.	Absolute Maximum Ratings (Ta=25°C)*				Electrical Characteristics (Ta=25°C)*						Package	Equivalent Circuit Diagram	Automotive Grade Available
	V _R (V)	I _F (mA)	T _J (°C)	Tstg (°C)	Ct (pF) Max.			rF (Ω) Max.					
Part No.						V _R (V)	f (MHz)		I _F (mA)	f (MHz)			
RN142ZS	30	50	150	-55 to +150	0.45	1	1	2.5	3	100	SOD-962 (GMD2)		—
RN242CS	30	100	150	-55 to +150	0.35	1	1	3	3	100	SOD-923 (VMN2)		—
RN262CS	30	100	150	-55 to +150	0.4	1	1	2.8	3	100	SOD-723 (VMD2)		—
RN262G	30	100	150	-55 to +150	0.35	1	1	2.8	3	100	SOD-723 (VMD2)		—
RN141G	50	100	150	-55 to +150	0.8	1	1	2	3	100	SOD-523 (EMD2)		—
RN142G	60	100	150	-55 to +150	0.45	1	1	3	3	100	SOD-523 (EMD2)		—
RN141S	50	100	150	-55 to +150	0.8	1	1	2	3	100	SOD-323FL (UMD2)		—
RN142S	60	100	150	-55 to +150	0.45	1	1	3	3	100	SOD-323FL (UMD2)		—
RN731V	50	50	125	-55 to +150	0.4	35	1	7	10	100	SOT-323FL (UMD2)		Yes
RN771V	50	50	150	-55 to +150	0.9	35	1	7	10	100	SOT-323 (UMD3)		Yes
RN739F	50	50	125	-55 to +150	0.4	35	1	7	10	100	SOT-346 (SMD3)		Yes
RN779F	50	50	150	-55 to +150	0.9	35	1	7	10	100	SOT-346 (SMD3)		Yes
RN779D	50	50	150	-55 to +150	0.9	35	1	7	10	100	DFN1608-8 (HMD8)		—
RN142ZS8A	30	50	150	-55 to +150	0.45	1	1	2.5	3	100	DFN2408-12 (HMD12)		—
RN142ZS12A	30	50	150	-55 to +150	0.45	1	1	2.5	3	100	DFN2408-12 (HMD12)		—

*: Value / Chip

Detection Schottky Diodes													
Product No.	Absolute Maximum Ratings (Ta=25°C)				Electrical Characteristics (Ta=25°C)*						Package	Equivalent Circuit Diagram	Automotive Grade Available
	V _R (V)	I _F (mA)	T _J (°C)	Tstg (°C)	V _F (V) Max.			C _t (pF) Max.					
Part No.						I _F (mA)	f (MHz)		V _R (V)	f (MHz)			
RB886CS	5	10	125	-40 to +125	0.35	1	—	0.8	1	1	SOD-923 (VMN2)		—
RB886G	5	10	125	-40 to +125	0.35	1	—	0.8	1	1	SOD-723 (VMD2)		—
RB876W	5	10	125	-40 to +125	0.35	1	—	0.8	1	1	SOT-416 (EMD3)		—
RB886Y	15	10	125	-40 to +125	0.35	1	—	0.8	1	1	SOT-543 (EMD4)		—
RB851Y	3	30	125	-40 to +125	0.46	1	—	0.8	0	1			—
RB861Y	5	10	125	-40 to +125	0.3	1	—	1.1	0	1			—

*: Value / Chip

Part No. Explanation

- When ordering, specify the part number.
- Check each code against the tables shown below.
- Fill in from the left, leaving any extra boxes empty on the right.

• Small signal / rectifier diode

Example:

1	S	S	3	5	5	V	M
---	---	---	---	---	---	---	---

T	E	—	1	7
---	---	---	---	---

Part No. Taping Code

Example:

U	D	Z	V
---	---	---	---

T	E	—	1	7
---	---	---	---	---

5	.	1
---	---	---

B

Part No. Taping Code Zener voltage Sub division

• Packaging type

Package	Code	ROHM Package	Package style	Direction	Basic ordering unit(pcs)
DSN0603-2	T15R	SMD0603	Embossed tape	Cathode on sprocket hole side	15,000
SOD-962	T2R	GMD2	Embossed tape	Cathode on sprocket hole side	8,000
	T2N		Embossed tape	Cathode on sprocket hole side	8,000
				Non-direction	
DFN1006-2	T2R	VML2	Embossed tape	Cathode on sprocket hole side	8,000
SOD-923	T2RA	VMN2	Embossed tape	Cathode on sprocket hole side	8,000
SOD-923	T2R	VMN2M	Embossed tape	Cathode on sprocket hole side	8,000
SOD-723	T2R	VMD2	Embossed tape	Cathode on sprocket hole side	8,000
DFN1608-2	T2R	KMD2	Embossed tape	Cathode on sprocket hole side	8,000
SOT-723	T2L	VMD3	Embossed tape	One terminal on sprocket hole side	8,000
SOD-523	TE61	EMD2	Embossed tape	Cathode on sprocket hole side	3,000
	T2R		Embossed tape	Cathode on sprocket hole side	8,000
	T2N		Embossed tape	Cathode on sprocket hole side	8,000
				Non-direction	
SOT-416	TL	EMD3	Embossed tape	One terminal on sprocket hole side	3,000
SOT-416FL	TL	EMD3F	Embossed tape	One terminal on sprocket hole side	3,000
SOT-543 SOT-553 SOT-563	T2R	EMD4 EMD5 EMD6	Embossed tape	Cathode on sprocket hole side	8,000
SOD-323FL	TE-17 TW11 ¹⁾	UMD2	Embossed tape	Cathode on sprocket hole side	3,000
SOT-323	T106	UMD3	Embossed tape	One terminal on sprocket hole side	3,000
SOT-323FL	TL	UMD3F	Embossed tape	One terminal on sprocket hole side	3,000
SOT-343	TL	UMD4	Embossed tape	Cathode on sprocket hole side (DA227)	3,000
SOT-353	TR	UMD5	Embossed tape	Three terminals on sprocket hole side	3,000
SOT-363	TR	UMD6	Embossed tape	Cathode on sprocket hole side	3,000
SOT-363	TN	UMD6	Embossed tape	Non-direction	3,000
	★TR ²⁾			Cathode on sprocket hole side	
SOT-23	T116	SSD3	Embossed tape	One terminal on sprocket hole side	3,000
SOT-346	T146	SMD3	Embossed tape	One terminal on sprocket hole side	3,000
SOT-25	T148	SMD5	Embossed tape	Three terminals on sprocket hole side	3,000
SOT-457	T108 ³⁾	SMD6	Embossed tape	Anode on sprocket hole side	3,000
	T110			Non-direction	
DFN1608-8	TE61	HMD8	Embossed tape	Cathode on sprocket hole side	3,000
DFN2408-12	TE61	HMD12	Embossed tape	Cathode on sprocket hole side	3,000

Notes: ¹⁾ Regarding the UMD2 package, only 1SS356 is available in TW11.

²⁾ Regarding the UMD6 package, only RB731XN is offered in TR.

³⁾ Regarding the SMD6 package, only 1MN10 and RB731U are available in T108.

★ Available outside Japan

Packages

■ Dimensions (Unit : mm)

Surface Mount Type

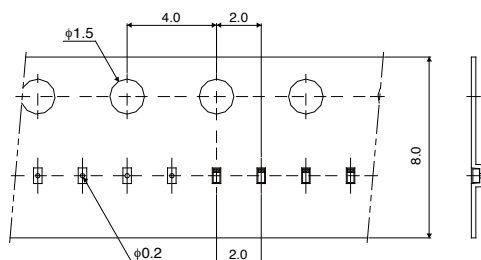
SMD0603 <DSN0603-2> 	GMD2 <SOD-962> 	VML2 <DFN1006-2> 	VMN2 <SOD-923> 	VMN2M <SOD-923>
VMD2 <SOD-723>[SC-104A] 	VMD3 <SOT-723>[SC-105AA] 	KMD2 <DFN-1608-2> 	EMD2 <SOD-523>[SC-79] 	EMD3 <SOT-416>[SC-75A]
EMD3F <SOT-416FL>[SC-81] 	EMD4 <SOT-543>[SC-107A] Each lead has same dimensions	EMD5 <SOT-553>[SC-107BB] 	EMD6 <SOT563>[SC-107C] Each lead has same dimensions	UMD2 <SOD-323FL>[SC-90/A]
UMD3 <SOT-323>[SC-70] 	UMD3F <SOT-323FL>[SC-85] 	UMD4 <SOT-343>[SC-82] Each lead has same dimensions	UMD5 <SOT-353>[SC-88A] 	UMD6 <SOT-363>[SC-88] Each lead has same dimensions
SMD3 <SOT-346>[SC-59] 	SMD5 <SOT-25>[SC-74A] 	SMD6 <SOT-457>[SC-74] Each lead has same dimensions	HMD8 <DFN1608-8> 	HMD12 <DFN2408-12>

Compatibility Chart of Packages

Package Code	Size (mm)	t=	JEITA	ROHM Package
DFN0604-3	0604	0.36	—	VML0604
DFN0806-3	0806	0.36	—	VML0806
DFN1006-3	1006	0.37	(SC-101)	VML1006
SOD-962	0603	0.28	—	GMD2
DFN0603-2				SMD0603
SOD-923	1006	0.37	SC-121	VMN2M
DFN1006-2	1006	0.45	—	VML2
SOD-723	1406	0.5	SC-104A	VMD2
SOT-723	1212	0.5	SC-105AA	VMT3/VMD3
VMT6	1212	0.5	(SC-105B)	VMT6
DFN1608-2	1608	0.6	—	KMD2
SOD-523	1608	0.6	SC-79	EMD2
SOT-416	1616	0.7	SC-75A	EMT3/EMD3
SOT-416FL	1616	0.7	SC-89	EMT3F/EMD3F
SOT-543	1616	0.5	SC-107A	EMD4
SOT-553	1616	0.5	SC-107BB	EMT5/EMD5
SOT-563	1616	0.5	SC-107C	EMT6/EMD6
SOT-563T	1616	0.6	SC-120	WEMT6
SOD-323FL	25125	0.7	SC-90A	UMD2
SOT-323	2120	0.9	SC-70	UMT3/UMD3
SOT-323FL	2120	0.9	SC-85	UMT3F/UMD3F
SOT-343	2120	0.9	SC-82	UMD4
SOT-353	2120	0.9	SC-88A	UMT5/UMD5
SOT-363	2120	0.9	SC-88	UMT6/UMD6
DFN2020-3S	2020	0.6	—	HUML2020L3
DFN2020-8(S/D)	2020	0.6	—	HUML2020L8
SOT-323T	2120	0.77	SC-113A	TUMT3
SOT-353T	2120	0.77	SC-113CA	TUMT5/TUMD5
SOT-363T	2120	0.77	SC-113DA	TUMT6
SOT-23	2924	0.95	—	SST3
SOT-346	2928	1.1	SC-59	SMT3/SMD3
SOT-25	2928	1.1	SC-74A	SMT5/SMD5
SOT-457	2928	1.1	SC-74	SMT6/SMD6
SOT-346T	2928	0.85	SC-96	TSMT3
SOT-25T	2928	0.85	(SC-95)	TSMT5/TSMD5
SOT-457T	2928	0.85	SC-95	TSMT6/TSMD6
TSMT8/TSMD8	3028	0.8	—	TSMT8/TSMD8
TSST8	2019	0.8	—	TSST8

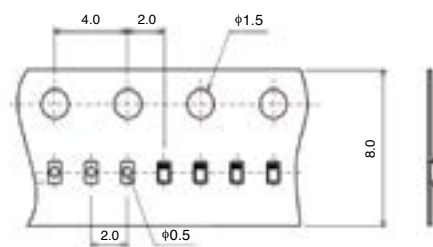
Package type (2pin)

DSN0603-2,SOD-962



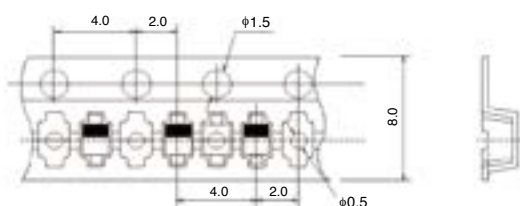
Package	ROHM Package	Taping Code
DSN0603-2	SOD0603	T15R
SOD-962	GMD2	T2R
		T2N

DFN1006-2,SOD-923,DFN1608-2



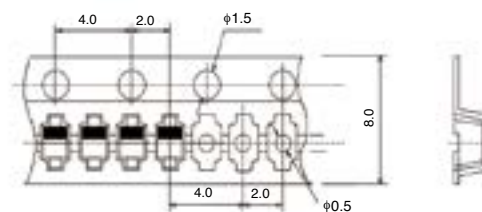
Package	ROHM Package	Taping Code
DFN1006-2	VML2	T2R
SOD-923	VMN2	T2RA
	VMN2M	T2R/T2N
DFN1608-2	KMD2	T2R

SOD-723,SOD-523



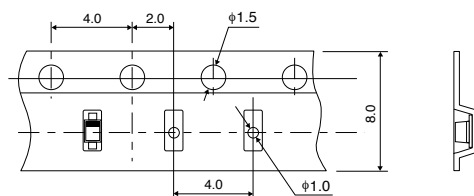
Package	ROHM Package	Taping Code
SOD-723	VMD2	T2R
SOD-523	EMD2	TE-61

SOD-523



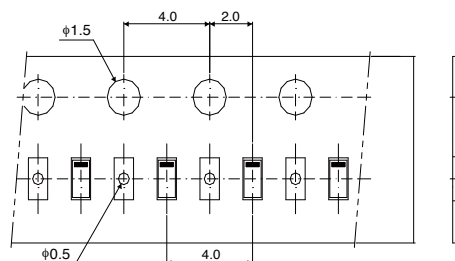
Package	ROHM Package	Taping Code
SOD-523	EMD2	T2R
		T2N

SOD-323FL



Package	ROHM Package	Taping Code
SOD-323FL	UMD2	TE-17

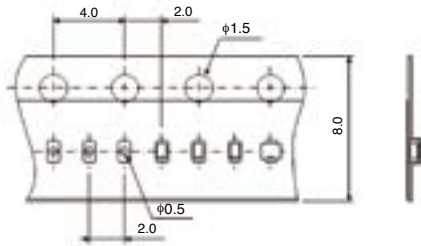
DFN1608-8,DFN2408-12



Package	ROHM Package	Taping Code
DFN1608-8	HMD8	TE-61
DFN2408-12	HMD12	TE-61

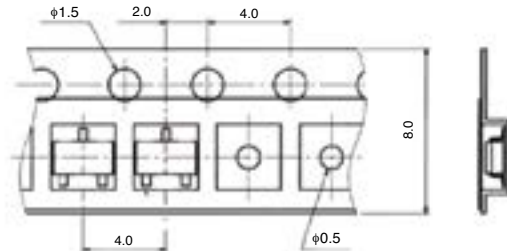
Package type (3pin / 4pin / 5pin / 6pin / 8pin)

DFN0604-3,DFN0806-3,DFN1006-3



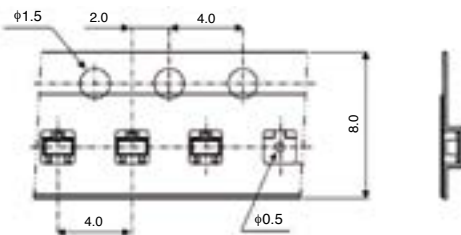
Package	ROHM Package	Taping Code
DFN0604-3	VML0604	T2L/T2CL
DFN0806-3	VML0806	T2L/T2CL
DFN1006-3	VML1006	T2L/T2CL

SOT-723,SOT-416,SOT-323



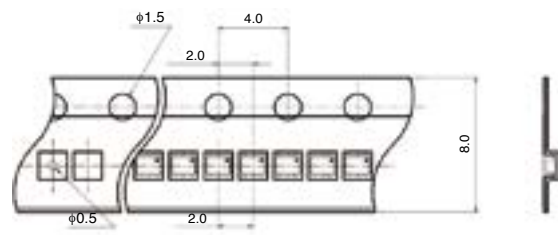
Package	ROHM Package	Taping Code
SOT-723	VMT3/VMD3	T2L/T2CL
SOT-416	EMT3/EMD3	TL
SOT-323	UMT3/UMD3	T106

SOT-416FL,SOT-323FL



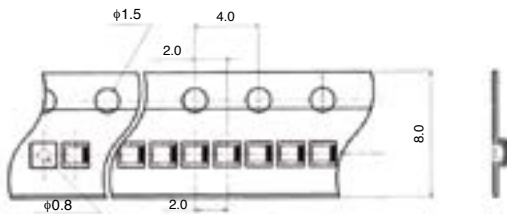
Package	ROHM Package	Taping Code
SOT-416FL	EMT3F/EMD3F	TL/TCL
SOT-323FL	UMT3F/EMD3F	TL/TCL

VMT6,SOT-563T



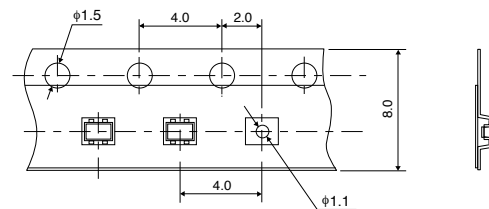
Package	ROHM Package	Taping Code
SOT-563T	WEMT6	T2R/T2CR
VMT6	VMT6	T2R/T2CR

SOT-553,SOT-563



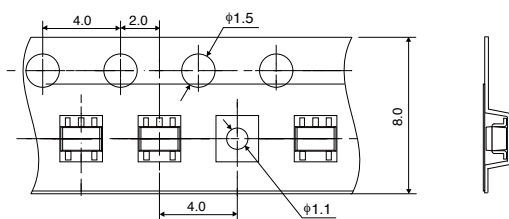
Package	ROHM Package	Taping Code
SOT-553	EMT5/EMD5	T2R/T2CR
SOT-563	EMT6/EMD6	T2R/T2CR

SOT-343



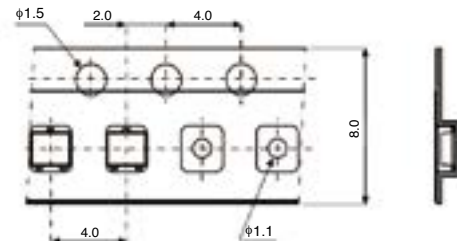
Package	ROHM Package	Taping Code
SOT-343	UMT4/UMD4	TL

SOT-353,SOT-363



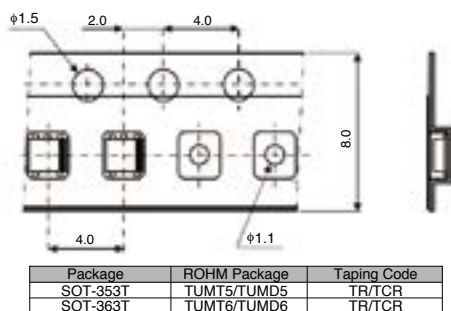
Package	ROHM Package	Taping Code
SOT-353	UMT5/UMD5	TR/TCR
SOT-363	UMT6/UMD6	TCR/TR/TCN/TN

SOT-323T

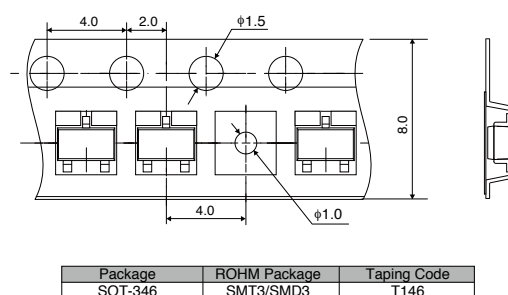


Package	ROHM Package	Taping Code
SOT-323T	TUMT3/TUMD3	TL/TCL

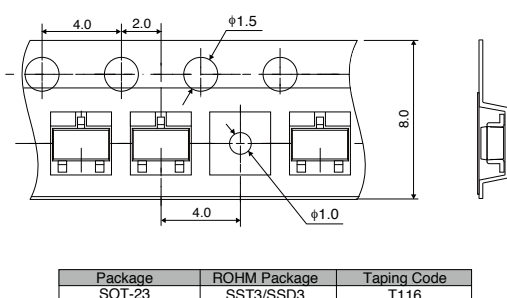
SOT-353T, SOT-363T



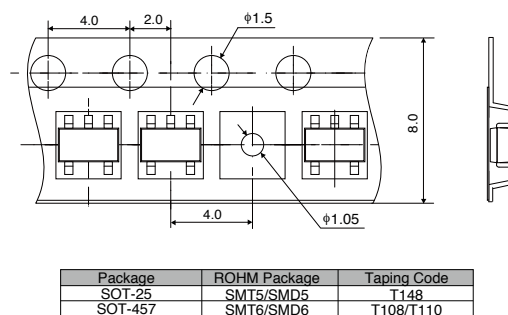
SOT-346



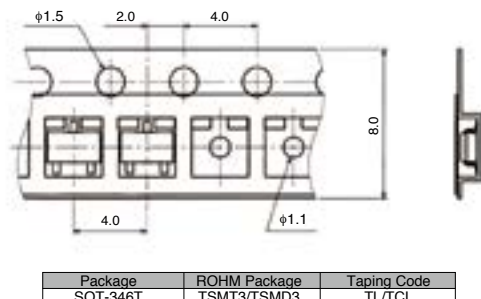
SOT-23



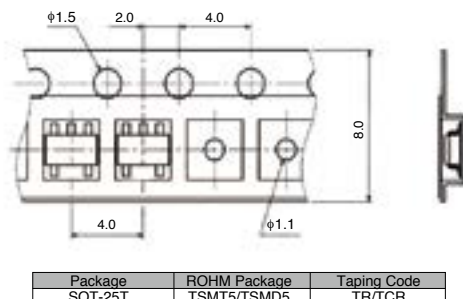
SOT-25, SOT-457



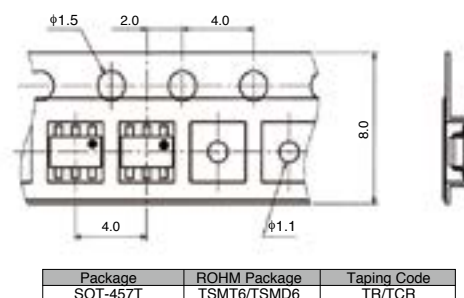
SOT-346T



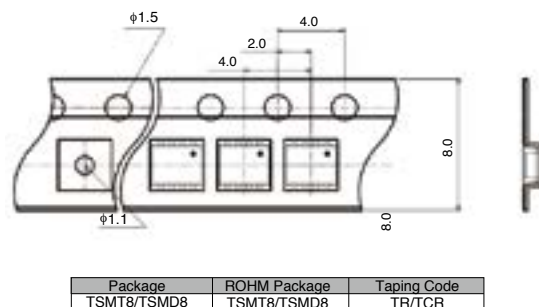
SOT-25T



SOT-457T



TSMT8/TSMD8



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- 7) The Products specified in this document are not designed to be radiation tolerant.
- 8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM and LAPIS Semiconductor representative: transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.
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Atlanta	+1-770-754-5972	Stuttgart	+49-711-7272370	Shanghai	+86-21-6072-8612	Kyoto	+81-75-365-1218
Boston	+1-978-371-0382	France	+33 (0) 1 40 60 87 30	Shenzhen	+86-755-8307-3008	Yokohama	+81-45-476-2121
Chicago	+1-847-368-1006	United Kingdom	+44-1-908-272400	Hong Kong	+852-2740-6262		
Denver	+1-303-708-0908	Oulu	+358-400-726124	Taiwan	+886-2-2500-6956		
Detroit	+1-248-348-9920	Spain	+34-9375-24320	Singapore	+65-6436-5100		
San Diego	+1-858-625-3600	Hungary	+36-1-950-5859	Philippines	+63-2-807-6872		
Mexico	+52-33-3123-2001	Russia	+74 95 739 4174	Thailand	+66-2-254-4890		
Brazil	+55-11-3539-6320	Seoul	+82-2-8182-700	Malaysia	+60-3-7931-8155		

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