

XII. Other Discrete Devices

General-purpose Small Signal Transistors

Type No. under package classification								V _{CE0} (V)	I _c (mA)
TO-92		MINI		S-MINI		USM			
PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN		
—	2SC2878	—	2SC3327	—	2SC3326	—	2SC4213	20	300
2SA1296	2SC3266	2SA1297	2SC3267	—	—	—	—	20	2000
2SA562TM	2SC1959	—	—	2SA1182	2SC2859	2SA1588	2SC4118	30	500
2SA950	2SC2120	2SA1150	2SC2710	2SA1621	2SC4210	—	—	30	800
2SA1015	2SC1815	2SA1048	2SC2458	2SA1162	2SC2712	2SA1586	2SC4116	50	150
—	2SC3112	—	2SC3113	—	2SC3295	—	—	50	150
(2SA970)	(2SC2240)	2SA1049	2SC2459	2SA1163	2SC2713	2SA1587	2SC4117	120	100

Bias Resistor Transistors (BRT)

Polarity	V _{CE0} = 50V, I _c = 100mA				V _{CE0} = 50V, I _c = 800mA	
	TO-92	MINI	S-MINI	USM	MINI	S-MINI
NPN	RN1001 Series	RN1201 Series	RN1401 Series	RN1301 Series	RN1221 Series	RN1421 Series
PNP	RN2001 Series	RN2201 Series	RN2401 Series	RN2301 Series	RN2221 Series	RN2421 Series

Small Signal Diodes (Surface Mount Type)

Type No.	Application	Electrical Characteristics (T _a = 25°C)				Mark	Similar types	Remarks
		V _R (V)	I ₀ (mA)	t _{rr} (ns)	Internal connection			
ISS181	High-speed switching	80	100	1.6TYP		A3	IS1585	Anode common
ISS184	High-speed switching	80	100	1.6TYP		B3	IS1585	Cathode common
ISS187	High-speed switching	80	100	1.6TYP		D3	IS1585	Single
ISS190	High-speed switching	80	100	1.6TYP		E3	IS1585	Single
ISS193	High-speed switching	80	100	1.6TYP		F3	IS1585	Single
ISS196	High-speed switching	80	100	1.6TYP		G3	IS1585	Single
ISS226	High-speed switching	80	100	1.6TYP		C3	IS1585	Series
ISS250	High-voltage, high-speed switching	200	100	30TYP		F5	ISS247	Single
ISS272	High-speed switching	80	100	1.6TYP		A1	IS1585	Double
ISS306	High-voltage, high-speed switching	200	100	30TYP		A3	ISS247	Single
ISS307	Low leak current	30	100	—		C9	ISS104	Single
ISS308	High-speed switching	80	100	1.6TYP		A1	IS1585	Anode common
ISS309	High-speed switching	80	100	1.6TYP		A2	IS1585	Cathode common
ISS311	High-speed switching	400	100	1.5μsTYP		B9	—	Single

General-purpose Schottky Barrier Diodes

Type No.	V _R (V)	I ₀ (mA)	P (mW)	Package
ISS293	40	100	300	MINI
ISS294	40	100	150	S-MINI
ISS319	40	100	150	SMQ
ISS321	10	50	150	S-MINI
ISS322	40	100	100	USM

Zener Diodes

Type No.	Allowable power dissipation	Zener Voltage (V)
02CZ Series	200mW	2 ~ 47
04AZ Series	400mW	2 ~ 39
05AZ Series	500mW	2.2 ~ 100
02BZ Series	250mW	2.2 ~ 4.7

L-MOS (1 Gate CMOS) Series

	NAND	AND	NOR	OR	INV	INV(UB)
TC4S Series	Circuit diagram (Top view)					
	Device name	TC4S11F	TC4S81F	TC4S01F	TC4S71F	TC4S69F
	Mark	C1	C2	C3	C4	C5
	Equivalent device	TC4011B	TC4081B	TC4001B	TC4071B	TC4069UB
TC7S Series*	Device name	TC7S00F	TC7S08F	TC7S02F	TC7S32F	TC7S04F
	Mark	E1	E2	E3	E4	E5
	Equivalent device	TC74HC00	TC74HC08	TC74HC02	TC74HC32	TC74HC04
	Equivalent device	TC74HC00	TC74HC08	TC74HC02	TC74HC32	TC74HC04

Circuit diagram (Top view)				
	Function	NAND (UB)	EX-OR	Analog SW
TC4S Series (expanded type)	Device name	TC4SU11F	TC4S30F	TC4S66F
	Mark	C7	C8	C9
	Equivalent device	TC4011B	TC4030B	TC4066B
	Equivalent device	TC4011B	TC4030B	TC4066B

*I_{OH} and I_{OL} are 1/2 that of the TC74HC Series.