

2N1545-2N1641

TYPE	MATERIAL	POLARITY	REPLACE- MENT	PAGE NUMBER	USE	MAXIMUM RATINGS					ELECTRICAL CHARACTERISTICS									
						P _D	Ref Point	T _J	V _{CB}	V _{CE} —	h _{FE} @ I _C	V _{CE(SAT)} @ I _C	h _{FE} —	Subscript	f _T	Subscript				
						@ 25°C	°C	(volts)	(volts)	Subscript							(min)	(max)	Units	Units
2N1545	G	P		7-64	LPA	90W	C	100	60	45	S	75	150	3.0A	0.2	3.0A			1.0K	E
2N1545A	G	P		7-64	LPA	90W	C	100	60	45	S	75	150	3.0A	0.2	3.0A			3.0K	E
2N1546	G	P		7-64	LPA	90W	C	100	80	60	S	75	150	3.0A	0.2	3.0A			1.0K	E
2N1546A	G	P		7-64	LPA	90W	C	100	80	60	S	75	150	3.0A	0.2	3.0A			3.0K	E
2N1547	G	P		7-64	LPA	90W	C	100	100	75	S	75	150	3.0A	0.2	3.0A			1.0K	E
2N1547A	G	P		7-64	LPA	90W	C	100	100	75	S	75	150	3.0A	0.2	3.0A			3.0K	E
2N1548	G	P		7-64	LPA	90W	C	100	120	90	S	75	150	3.0A	0.2	3.0A			1.0K	E
2N1549	G	P		7-67	LPA	90W	C	100	40	30	S	10	30	10A	1.0	10A				
2N1549A	G	P		7-67	LPA	90W	C	100	40	30	S	10	30	10A	1.0	10A			5.0K	E
2N1550	G	P		7-67	LPA	90W	C	100	60	45	S	10	30	10A	1.0	10A				
2N1550A	G	P		7-67	LPA	90W	C	100	60	45	S	10	30	10A	1.0	10A			5.0K	E
2N1551	G	P		7-67	LPA	90W	C	100	80	60	S	10	30	10A	1.0	10A				
2N1551A	G	P		7-67	LPA	90W	C	100	80	60	S	10	30	10A	1.0	10A			5.0K	E
2N1552	G	P		7-67	LPA	90W	C	100	100	75	S	10	30	10A	1.0	10A				
2N1552A	G	P		7-67	LPA	90W	C	100	100	75	S	10	30	10A	1.0	10A			5.0K	E
2N1553	G	P		7-67	LPA	90W	C	100	40	30	S	30	60	10A	0.5	10A			1.0K	E
2N1553A	G	P		7-67	LPA	90W	C	100	40	20	O	30	60	10A	0.5	10A			3.0K	E
2N1554	G	P		7-67	LPA	90W	C	100	60	45	S	30	60	10A	0.5	10A			1.0K	E
2N1554A	G	P		7-67	LPA	90W	C	100	60	30	O	30	60	10A	0.5	10A			3.0K	E
2N1555	G	P		7-67	LPA	90W	C	100	80	60	S	30	60	10A	0.5	10A			1.0K	E
2N1555A	G	P		7-67	LPA	90W	C	100	80	40	O	30	60	10A	0.5	10A			3.0K	E
2N1556	G	P		7-67	LPA	90W	C	100	100	75	S	30	60	10A	0.5	10A			1.0K	E
2N1556A	G	P		7-67	LPA	90W	C	100	100	50	O	30	60	10A	0.5	10A			3.0K	E
2N1557	G	P		7-67	LPA	90W	C	100	40	30	S	50	100	10A	0.4	10A			1.0K	E
2N1557A	G	P		7-67	LPA	90W	C	100	40	20	O	50	100	10A	0.5	10A			3.0K	E
2N1558	G	P		7-67	LPA	90W	C	100	60	45	S	50	100	10A	0.4	10A			1.0K	E
2N1558A	G	P		7-67	LPA	90W	C	100	60	30	O	50	100	10A	0.5	10A			3.0K	E
2N1559	G	P		7-67	LPA	90W	C	100	80	60	S	50	100	10A	0.4	10A			1.0K	E
2N1559A	G	P		7-67	LPA	90W	C	100	80	40	O	50	100	10A	0.5	10A			3.0K	E
2N1560	G	P		7-67	LPA	90W	C	100	100	75	S	50	100	10A	0.4	10A			1.0K	E
2N1560A	G	P		7-67	LPA	90W	C	100	100	50	O	50	100	10A	0.5	10A			3.0K	E
2N1561	G	P		9-24	RFA	250M	A	100	25	15	O			3.0	200M					
2N1562	G	P		9-24	RFA	250M	A	100	25	15	O			4.0	200M					
2N1564	S	N	2N2218	8-108	AFA	600M	A	175	80	60	O	15	50	5.0M	1.0	10M	40	E		
2N1565	S	N	2N2218	8-108	AFA	600M	A	175	80	60	O	30	100	5.0M	1.0	10M	40	E		
2N1566	S	N	2N2219	8-108	AFA	600M	A	175	80	60	O	60	200	5.0M	1.0	10M	80	E		
2N1566A	S	N	2N2219	8-108	AFA	600M	A	175	80	60	O	60	200	5.0M	0.95	10M	80	E	100M	T
2N1572	S	N			AFA	600M	A	175	125	80	O	15	50	5.0M	1.0	10M	20	E		
2N1573	S	N			AFA	600M	A	175	125	80	O	30	100	5.0M	1.0	10M	40	E		
2N1574	S	N			AFA	600M	A	175	125	80	O	60	200	5.0M	1.0	10M	80	E		
2N1585	G	N			RFA	750M	A	100	25	10	O	20		10M						
2N1586	S	N			AFA	125M	A	85	15	10	O	5.0	27	1.0M	1.5	5.0M	9.0	E	5.0M	B
2N1587	S	N			AFA	125M	A	85	30	20	O	5.0	27	1.0M	1.5	5.0M	9.0	E	5.0M	B
2N1588	S	N			AFA	125M	A	85	60	40	O	5.0	27	1.0M	1.5	5.0M	9.0	E	5.0M	B
2N1589	S	N			AFA	125M	A	85	15	10	O	20	75	1.0M	1.5	5.0M	25	E	5.0M	B
2N1590	S	N			AFA	125M	A	85	30	20	O	20	75	1.0M	1.5	5.0M	25	E	5.0M	B
2N1591	S	N			AFA	125M	A	85	60	40	O	20	75	1.0M	1.5	5.0M	25	E	5.0M	B
2N1592	S	N			AFA	125M	A	85	15	10	O	40	210	1.0M	1.5	5.0M	70	E	5.0M	B
2N1593	S	N			AFA	125M	A	85	30	20	O	40	210	1.0M	1.5	5.0M	70	E	5.0M	B
2N1594	S	N			AFA	125M	A	85	60	40	O	40	210	1.0M	1.5	5.0M	70	E	5.0M	B
2N1595	S	N			AFA	125M	A	85	60	40	O	40	210	1.0M	1.5	5.0M	70	E	5.0M	B
Thyristors, see Table on Page 1-154																				
2N1604	G	N			MSS	150M	A	100	25	24	O	40		20M	0.15	12M			4.0M	B
2N1605	G	N			MSS	0.2W	A	100	40	40	O	40		20M	0.15	12M			4.0M	B
2N1606	S	P			HSS	100M	A	140	10	10	S	6.0	30	15M	0.15	5.0M			7.2M	T
2N1607	S	P			HSS	100M	A	140	10	10	S	6.0	30	15M	0.15	5.0M			10M	T
2N1608	S	P			HSS	100M	A	140	10	10	S	6.0	30	15M	0.15	5.0M			25M	T
2N1609	G	P	2N2140	7-78	LPA		95	80	60	O	30	75	100M	1.0	500M					
2N1610	G	P	2N2145	7-78	LPA		95	80	60	O	50	125	100M	0.6	500M					
2N1611	G	P	2N2138	7-78	LPA		95	60	40	O	30	75	100M	1.0	500M					
2N1612	G	P	2N2143	7-78	LPA		95	60	40	O	50	125	100M	0.6	500M					
2N1613	S	N		8-30	MSA	800M	A	200	75	50	R	40	120	150M	1.5	150M	30	E	60M	T
2N1613A	S	N	2N2218	8-108	MSA	1.0W	A	200	75	50	R	40	120	150M	1.0	150M	30	E	60M	T
2N1613B	S	N			MSA	1.0W	A	200	120	55	R	40	120	150M	0.2	150M	30	E	60M	T
2N1614	G	P	2N1924	6-37	MSA	240M	A	100	65	40	R	18	43	20M	0.13	20M			500K	B
2N1615	S	N			RFA	5.5M	A	200	100	100	O	25		5.0M	5.0	50M			2.0M	T
2N1616	S	N	2N3487	7-115	HPA	60W	C	175	60	60	O	15	75	2.0A	2.0	2.0A			3.0M	T
2N1616A	S	N	2N3487	7-115	HPA	85W	C	200	60	60	O	20	60	2.0A	1.0	2.0A			3.0M	T
2N1617	S	N	2N3487	7-115	HPA	60W	C	175	80	80	V	15	75	2.0A	2.0	2.0A			3.0M	T
2N1617A	S	N	2N3487	7-115	HPA	85W	C	200	80	70	O	20	60	2.0A	1.0	2.0A			3.0M	T
2N1618	S	N	2N3488	7-115	HPA	60W	C	175	100	100	V	15	75	2.0A	2.0	2.0A			3.0M	T
2N1618A	S	N	2N3488	7-115	LPA	85W	C	200	100	80	O	20	60	2.0A	1.0	2.0A			3.0M	T
2N1620	S	N	2N3446	7-111	HPA	60W	C	175	100	100	V	15	75	2.0A	2.0	2.0A			3.0M	T
2N1622	G	N			AFA	0.12W	A	85	90	90	S	40		5.0M						
2N1623	S	P			AFA	250M	A	160	50	20	O	9.0	40	1.0M						

THYRISTOR INDEX

2N681-2N1601

TYPE	REPLACEMENT	PAGE NUMBER	I_f A	V_{FOM}/V_{ROM} V	T_j °C	I_{GT} mA	V_{GT} V
2N681		4-10	25	25	125	40	2.0
2N681A			28	25	125	40	2.0
2N682		4-10	25	50	125	40	2.0
2N682A			28	50	125	40	2.0
2N683		4-10	25	100	125	40	2.0
2N683A			28	100	125	40	2.0
2N684		4-10	25	150	125	40	2.0
2N684A			28	150	125	40	2.0
2N685		4-10	25	200	125	40	2.0
2N685A			28	200	125	40	2.0
2N686		4-10	25	250	125	40	2.0
2N686A			28	250	125	40	2.0
2N687		4-10	25	300	125	40	2.0
2N687A			28	300	125	40	2.0
2N688		4-10	25	400	125	40	2.0
2N688A			28	400	125	40	2.0
2N689		4-10	25	500	125	40	2.0
2N689A			28	500	125	40	2.0
2N690			25	600	125	40	2.0
2N690A			25	600	125	40	2.0
2N691			25	700	125	40	2.0
2N692			25	800	125	40	2.0
2N764*			0.39	30	125	1.0	1.0
2N765*			0.20	60	125	1.0	1.0
2N766*			0.20	100	125	1.0	1.0
2N767*			0.20	200	125	1.0	1.0
2N876			0.35	15	150	0.2	0.8
2N877			0.35	30	150	0.2	0.8
2N878			0.35	60	150	0.2	0.8
2N879			0.35	100	150	0.2	0.8
2N880			0.35	150	150	0.2	0.8
2N881			0.35	200	150	0.2	0.8
2N882			0.35	300	150	0.2	0.8
2N883			0.35	400	150	0.2	0.8
2N884			0.35	15	150	0.02	0.6
2N885			0.35	30	150	0.02	0.6
2N886			0.35	60	150	0.02	0.6
2N887			0.35	100	150	0.02	0.6
2N888			0.35	150	150	0.02	0.6
2N889			0.35	200	150	0.02	0.6
2N890			0.35	300	150	0.02	0.6
2N891			0.35	400	150	0.02	0.6
2N892*			0.250	15	125	0.05	0.70
2N893*			0.250	15	125	0.05	0.70
2N894*			0.250	30/15	125	0.05	0.70
2N895*			0.250	30/15	125	0.05	0.70
2N896*			0.250	60/15	125	0.05	0.70
2N897*			0.250	60/15	125	0.05	0.70
2N898*			0.250	100/15	125	0.05	0.70
2N899*			0.250	100/15	125	0.05	0.70
2N900*			0.250	200/15	125	0.05	0.70
2N901*			0.250	200/15	125	0.05	0.70
2N948			0.26	30	150	0.02	1.0
2N949			0.26	60	150	0.02	1.0
2N950			0.26	100	150	0.02	1.0
2N951			0.26	200	150	0.02	1.0
2N1595		4-13	1.6	50	125	10	3.0
2N1595A			1.6	50	150	2.0	2.0
2N1596		4-13	1.6	100	125	10	3.0
2N1596A			1.6	100	150	2.0	2.0
2N1597		4-13	1.6	200	125	10	3.0
2N1597A			1.6	200	150	2.0	2.0
2N1598		4-13	1.6	300	125	10	3.0
2N1598A			1.6	300	150	2.0	2.0
2N1599		4-13	1.6	400	125	10	3.0
2N1599A			1.6	400	150	2.0	2.0
2N1600	2N4168	4-26	4.0	50	125	10	3.0
2N1600A			4.0	50	125	4.5	3.0
2N1601	2N4169	4-26	4.0	100	125	10	3.0

THYRISTOR PRODUCTS

THYRISTOR QUICK SELECTION

THYRISTORS —
SILICON
CONTROLLED
RECTIFIERS

		800 mA		1.6 AMP	2.0 AMP	8.0 AMP			
THYRISTORS — SILICON CONTROLLED RECTIFIERS		 Plastic Case 29 (10)	 Case 31A	 Case 63	 Plastic Case 90	 Case 85 Case 85L ^① (Leads)	 Case 86 Case 86L ^① (Leads)	 Case 87 Case 87L ^① (Leads)	 Case 88 Case 88L ^① (Leads)
BLOCKING VOLTAGE (DC OR PEAK) VOLTS	25 V	—	2N2322 2N4212#	MCR846-1	—	2N4151 2N4159 ^①	2N4167 2N4175 ^②	MCR2604-1 2N4183 ^③	MCR2605-1 2N4191 ^④
	30 V	2N5060#	—	—	—	—	—	—	—
	50 V	—	2N1595 2N2323# 2N4213#	MCR846-2	2N4441	2N4152 2N4160 ^①	2N4168 2N4176 ^②	MCR2604-2 2N4184 ^③	MCR2605-2 2N4192 ^④
	60 V	2N5061#	—	—	—	—	—	—	—
	100 V	2N5062#	2N1596 2N2324# 2N4214#	MCR846-3	—	2N4153 2N4161 ^①	2N4169 2N4177 ^②	MCR2604-3 2N4185 ^③	MCR2605-3 2N4193 ^④
	150 V	2N5063#	2N2325# 2N4215#	—	—	—	—	—	—
	200 V	—	2N1597 2N2326# 2N4216#	MCR846-4	2N4442	2N4154 2N4162 ^①	2N4170 2N4178 ^②	MCR2604-4 2N4186 ^③	MCR2605-4 2N4194 ^④
	250 V	—	—	—	—	—	—	—	—
	300 V	—	2N1598	—	—	2N4155 2N4163 ^①	2N4171 2N4179 ^②	MCR2604-5 2N4187 ^③	MCR2605-5 2N4195 ^④
	400 V	—	2N1599	—	2N4443	2N4156 2N4164 ^①	2N4172 2N4180 ^②	MCR2604-6 2N4188 ^③	MCR2605-6 2N4196 ^④
	500 V	—	—	—	—	2N4157 2N4165 ^①	2N4173 2N4181 ^②	MCR2604-7 2N4189 ^③	MCR2605-7 2N4197 ^④
	600 V	—	—	—	2N4444	2N4158 2N4166 ^①	2N4174 2N4182 ^②	MCR2604-8 2N4190 ^③	MCR2605-8 2N4198 ^④
	700 V	—	—	—	—	—	—	—	—
	800 V	—	—	—	—	—	—	—	—

*Reverse polarity available (add suffix "R": i.e. 2N5164R)

**Formerly MCR2818 and MCR2918, -2, -4, -6, -8 respectively.

#Sensitive gate devices

2N1595 thru 2N1599

$I_f = 1.6 \text{ A RMS}$

$V_{ROM(rep)} = 50-400 \text{ V}$



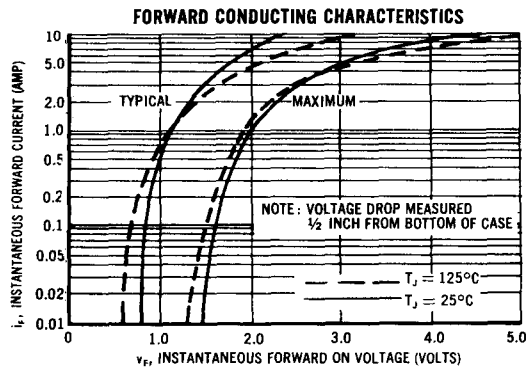
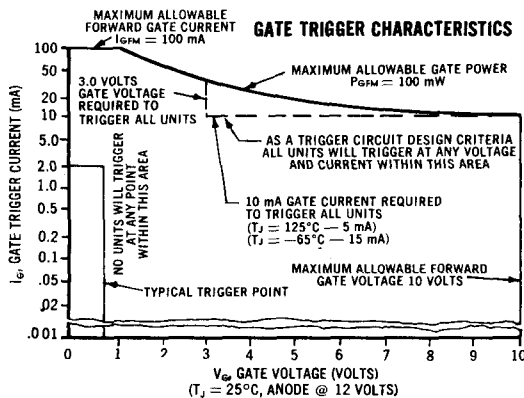
CASE 31A
(TO-5)

Industrial-type, low-current silicon controlled rectifiers in a three-lead package ideal for printed-circuit applications. Current handling capability of 1.6 amperes at junction temperatures to 125°C.

MAXIMUM RATINGS ($T_J = 125^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Peak Reverse Blocking Voltage*	$V_{ROM(rep)}^*$		Volts
2N1595		50	
2N1596		100	
2N1597		200	
2N1598		300	
2N1599		400	
Forward Current RMS (All Conduction Angles)	I_f	1.6	Amp
Peak Forward Surge Current (One Cycle, 60 Hz, $T_J = -65$ to $+125^\circ\text{C}$)	$I_{FM(surge)}$	15	Amp
Peak Gate Power - Forward	P_{GFM}	0.1	Watt
Average Gate Power - Forward	$P_{GF(AV)}$	0.01	Watt
Peak Gate Current - Forward	I_{GFM}	0.1	Amp
Peak Gate Voltage - Forward	V_{GFM}	10	Volts
Reverse	V_{GRM}	10	Volts
Operating Junction Temperature Range	T_J	-65 to $+125$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to $+150$	$^\circ\text{C}$

* V_{ROM} for all types can be applied on a continuous dc basis without incurring damage.



2N1595 thru 2N1599 (continued)

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Units
Peak Forward Blocking Voltage* ($T_J = 125^\circ\text{C}$)	V_{FOM}^*				Volts
2N1595		50	—	—	
2N1596		100	—	—	
2N1597		200	—	—	
2N1598		300	—	—	
2N1599		400	—	—	
Peak Forward Blocking Current (Rated V_{FOM} with gate open, $T_J = 125^\circ\text{C}$)	I_{FOM}	—	—	1.0	mA
Peak Reverse Blocking Current (Rated V_{ROM} , $T_J = 125^\circ\text{C}$)	I_{ROM}	—	—	1.0	mA
Gate Trigger Current (Continuous dc) (Anode Voltage = 7 Vdc, $R_L = 12\ \Omega$)	I_{GT}	—	2.0	10.0	mA
Gate Trigger Voltage (Continuous dc) (Anode Voltage = 7 Vdc, $R_L = 12\ \Omega$)	V_{GT}	—	0.7	3.0	Volts
(Anode Voltage = Rated V_{FOM} , $R_L = 12\ \Omega$, $T_J = 125^\circ\text{C}$)	V_{GNT}	0.2	—	—	
Holding Current (Anode Voltage = 7 Vdc, Gate Open)	I_{HO}	—	5.0	—	mA
Forward On Voltage ($I_F = 1\text{ A}$ dc)	V_F	—	1.1	2.0	Volts
Turn-On Time ($t_d + t_r$) ($I_G = 10\text{ mA}$, $I_F = 1\text{ A}$)	t_{on}	—	0.8	—	μs
Turn-Off Time ($I_F = 1\text{ A}$, $I_R = 1\text{ A}$, $dv/dt = 20\text{ V}/\mu\text{s}$, $T_J = 125^\circ\text{C}$) (V_{FXM} = rated voltage) (V_{RXM} = rated voltage)	t_{off}	—	10	—	μs

* V_{FOM} for all types can be applied on a continuous dc basis without incurring damage.

CURRENT DERATING

