

2N1602-2N1850A

THYRISTOR INDEX (continued)

TYPE	REPLACEMENT	PAGE NUMBER	I _F A	V _{FOM} /V _{ROM} V	T _J °C	I _{GT} mA	V _{GT} V
2N1602	2N4170	4-26	4.0	200	125	10	3.0
2N1603	2N4171	4-26	4.0	300	125	10	3.0
2N1604	2N4172	4-26	4.0	400	125	10	3.0
2N1686*			0.5	30	125	1.0	1.0
2N1687*			0.5	60	125	1.0	1.0
2N1688*			0.5	100	125	1.0	1.0
2N1689*			0.5	200	125	1.0	1.0
2N1765			0.5	400	85	10	1.5
2N1770	2N4167	4-26	4.7	25	125	15	2.0
2N1770A			4.7	25	150	15	2.0
2N1771	2N4168	4-26	4.7	50	125	15	2.0
2N1771A			4.7	50	150	15	2.0
2N1772	2N4169	4-26	4.7	100	125	15	2.0
2N1772A			4.7	100	150	15	2.0
2N1773	2N4170	4-26	4.7	150	125	15	2.0
2N1773A			4.7	150	150	15	2.0
2N1774	2N4170	4-26	4.7	200	125	15	2.0
2N1774A			4.7	200	150	15	2.0
2N1775	2N4171	4-26	4.7	250	125	15	2.0
2N1775A			4.7	250	150	15	2.0
2N1776	2N4171	4-26	4.7	300	125	15	2.0
2N1776A			4.7	300	150	15	2.0
2N1776B			4.7	300	150	15	2.0
2N1777	2N4172	4-26	4.7	400	125	15	2.0
2N1777A			7.0	400	150	15	2.0
2N1778	2N4173	4-26	7.4	500	125	15	2.0
2N1778A			7.0	500	150	15	2.0
2N1792			110	60	125	75	3.0
2N1793			110	120	125	75	3.0
2N1794			110	180	125	75	3.0
2N1795			110	240	125	75	3.0
2N1796			110	300	125	75	3.0
2N1797			110	360	125	75	3.0
2N1798			110	480	125	75	3.0
2N1799			110	600	125	75	3.0
2N1800			110	720	125	75	3.0
2N1801			110	840	125	75	3.0
2N1802			110	960	125	75	3.0
2N1803			110	1080	125	90	3.0
2N1804			110	1200	125	90	3.0
2N1805			110	500	125	75	3.0
2N1806			110	600	125	75	3.0
2N1807			110	700	125	75	3.0
2N1842		4-15	16	25	100	80	2.0
2N1842A		4-18	16	25	125	80	2.0
2N1842B			20	25	125	75	3.0
2N1843		4-15	16	50	100	80	2.0
2N1843A		4-18	16	50	125	80	2.0
2N1843B			20	50	125	75	3.0
2N1844		4-15	16	100	100	80	2.0
2N1844A		4-18	16	100	125	80	2.0
2N1844B			20	100	125	75	3.0
2N1845		4-15	16	150	100	80	2.0
2N1845A		4-18	16	150	125	80	2.0
2N1845B			20	150	125	75	3.0
2N1846		4-15	16	200	100	80	2.0
2N1846A		4-18	16	200	125	80	2.0
2N1846B			20	200	125	75	3.0
2N1847		4-15	16	250	100	80	2.0
2N1847A		4-18	16	250	125	80	2.0
2N1847B			20	250	125	75	3.0
2N1848		4-15	16	300	100	80	2.0
2N1848A		4-18	16	300	125	80	2.0
2N1848B			20	300	125	75	3.0
2N1849		4-15	16	400	100	80	2.0
2N1849A		4-18	16	400	125	80	2.0
2N1849B			20	400	125	75	3.0
2N1850		4-15	16	500	100	80	2.0
2N1850A		4-18	16	500	125	80	2.0

2N1842A thru 2N1850A

$I_f = 16 \text{ A RMS}$
 $V_{ROM(rep)} = 25-500 \text{ V}$



CASE 64
(TO-48)

Industrial-type, silicon controlled rectifiers in a stud package with current handling capability to 16 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* 2N1842A 2N1843A 2N1844A 2N1845A 2N1846A 2N1847A 2N1848A 2N1849A 2N1850A	$V_{ROM(rep)}$ *	25 50 100 150 200 250 300 400 500	Volts
Peak Reverse Blocking Voltage (Transient) (Non-Recurrent 5 ms max.) 2N1842A 2N1843A 2N1844A 2N1845A 2N1846A 2N1847A 2N1848A 2N1849A 2N1850A	$V_{ROM(non-rep)}$	35 75 150 225 300 350 400 500 600	Volts
Forward Current RMS	I_f	16	Amp
Peak Forward Surge Current (One Cycle, 60 Hz, $T_J = -65$ to $+125^\circ\text{C}$)	$I_{FM(surge)}$	125	Amp
Circuit Fusing Considerations ($T_J = -65$ to $+125^\circ\text{C}$, $t \leq 8.3$ ms)	I^2t	60	A^2s
Peak Gate Power - Forward	P_{GFM}	5.0	Watts
Average Gate Power - Forward	$P_{GF(AV)}$	0.5	Watt
Peak Gate Current - Forward	I_{GFM}	2.0	Amp
Peak Gate Voltage - Forward Reverse	V_{GFM} V_{GRM}	10 5.0	Volts
Operating Junction Temperature Range	T_J	-65 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$
Stud Torque	—	30	in.-lb.

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

Ratings apply for zero or negative gate voltage.

2N1842 A thru 2N1850A (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}^*	25	—	—	Volts
2N1842A		25	—	—	
2N1843A		50	—	—	
2N1844A		100	—	—	
2N1845A		150	—	—	
2N1846A		200	—	—	
2N1847A		250	—	—	
2N1848A		300	—	—	
2N1849A		400	—	—	
2N1850A		500	—	—	
Peak Forward or Reverse Blocking Current (V_{FOM} , OR V_{ROM} , gate open, $T_J = 125^\circ\text{C}$)	I_{FOM} I_{ROM}	—	—	6.0	mA
Gate Trigger Current (Continuous dc) (Anode Voltage = 7 Vdc, $R_L = 50 \Omega$)	I_{GT}	—	15	80	mA
Gate Trigger Voltage (Anode Voltage = 7 Vdc, $R_L = 50 \Omega$)	V_{GT}	—	0.8	2.0	Volts
(Anode Voltage = Rated V_{FOM} , $R_L = 50 \Omega$, $T_J = 125^\circ\text{C}$)	V_{GNT}	0.25	—	—	
Holding Current (Anode Voltage = 7 Vdc, Gate Open)	I_{HO}	—	20	—	mA
Forward On Voltage ($I_F = 16 \text{ Adc}$)	V_F	—	1.1	1.6	Volts
Turn-On Time ($t_d + t_r$) ($I_G = 50 \text{ mA}$, $I_F = 10 \text{ A}$)	t_{on}	—	1.0	—	μs
Turn-Off Time ($I_F = 10 \text{ A}$, $I_R = 10 \text{ A}$, $dv/dt = 20 \text{ V}/\mu\text{s}$, $T_J = 125^\circ\text{C}$)	t_{off}	—	30	—	μs
Forward Voltage Application Rate (Gate Open, $T_J = 125^\circ\text{C}$)	dv/dt	—	30	—	$\text{V}/\mu\text{s}$
Thermal Resistance (Junction to Case)	θ_{JC}	—	1.0	2.0	$^\circ\text{C}/\text{W}$

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

Ratings apply for zero or negative gate voltage.

2N1842A thru 2N1850A (continued)

