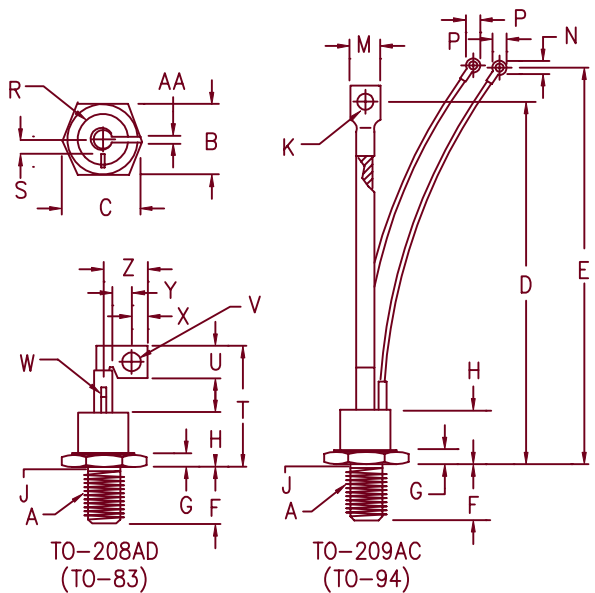


Silicon Controlled Rectifier Series 55C



Note 1: 1/2-20 UNF-3A
 Note 2: Full thread within 2 1/2 threads
 Note 3: For insulated cathode lead,
 add suffix "IL" to catalog number

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	1.050	1.060	26.67	26.92	
C	---	1.161	---	29.49	
D	5.850	6.144	149.10	156.06	
E	6.850	7.375	173.99	187.33	
F	.797	.827	20.24	21.01	
G	.276	.286	.701	7.26	
H	---	.948	---	24.08	
J	.425	.499	10.80	12.67	2
K	.260	.280	6.60	7.11	Dia.
M	.500	.600	12.70	15.24	
N	.140	.150	3.56	3.81	
P	---	.295	---	7.49	
R	---	.900	---	22.86	Dia.
S	.225	.275	6.48	6.99	
T	---	1.750	---	44.45	
U	.370	.380	9.40	9.65	
V	.213	.223	5.41	5.66	Dia.
W	.065	.075	1.65	1.91	Dia.
X	.215	.225	5.46	5.72	
Y	.290	.315	7.37	8.00	
Z	.514	.530	13.06	13.46	
AA	.089	.099	2.26	2.51	

Microsemi Catalog Number		Forward & Reverse Repetitive Blocking	Reverse Transient Blocking
Standard Lead	Flag Lead		
55C60B	55C60BF	600	700
55C80B	55C80BF	800	900
55C100B	55C100BF	1000	1100
55C120B	55C120BF	1200	1300

To specify dv/dt higher than 200V/usec., contact factory.

- High dv/dt—200 V/usec.
- 1200 Amperes surge current
- Low forward on-state voltage
- Package conforming to either TO-209AC or TO-208AD outline
- Economical for general purpose phase control applications

Electrical Characteristics

Max. RMS on-state current	$I_T(\text{RMS})$ 86 Amps	$T_C = 70^\circ\text{C}$
Max. average on-state cur.	$I_T(\text{AV})$ 55 Amps	$T_C = 70^\circ\text{C}$
Max. peak on-state voltage	V_{TM} 1.6 Volts	$I_{TM} = 220 \text{ A(peak)}$
Max. holding current	I_H 200 mA	
Max. peak one cycle surge current	I_{TSM} 1200 A	$T_C = 70^\circ\text{C}, 60\text{Hz}$
Max. I^2t capability for fusing	I^2t 6000A ² S	$t = 8.3 \text{ ms}$

Thermal and Mechanical Characteristics

Operating junction temp range	T_J	-65°C to 125°C
Storage temperature range	T_{STG}	-65°C to 150°C
Maximum thermal resistance	$R_{\theta JC}$	0.32°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.20°C/W Case to sink
Mounting torque		100-130 inch pounds
Weight		55C-B Approx. 3.6 ounces (102.0 grams) typical 55C-BF Approx. 3.24 ounces (91.8 grams) typical

55C

Switching

Critical rate of rise of on-state current (note 1)	di/dt	100A/usec.	$T_J = 125^\circ\text{C}$
Typical delay time (note 1)	t_d	3.0 usec.	
Typical circuit commuted turn-off time (note 2)	t_q	100 usec.	$T_J = 125^\circ\text{C}$

Note 1: $I_{TM} = 50\text{A}$, $V_D = V_{DRM}$, $V_{GT} = 12\text{V}$ open circuit, 20 ohm-0.1 usec. rise time

Note 2: $I_{TM} = 50\text{A}$, $di/dt = 5\text{A/usec.}$, V_R during turn-off interval = 50V min.,
reapplied $dv/dt = 20\text{V/usec.}$, linear to rated V_{DRM} , $V_{GT} = 0\text{V}$

Triggering

Max. gate voltage to trigger	V_{GT}	3.0V	$T_J = 25^\circ\text{C}$
Max. nontriggering gate voltage	V_{GD}	0.25V	$T_J = 125^\circ\text{C}$
Max. gate current to trigger	I_{GT}	100mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	P_{GM}	15W	
Average gate power	$P_{G(AV)}$	3.0W	$t_p = 10\text{ usec.}$
Max. peak gate current	I_{GM}	4.0A	
Max. peak gate voltage (forward)	V_{GM}	20V	
Max. peak gate voltage (reverse)	V_{GM}	10V	

Blocking

Max. leakage current	I_{DRM}	10mA	$T_J = 125^\circ\text{C} \ \& \ V_{DRM}$
Max. reverse leakage	I_{RRM}	10mA	$T_J = 125^\circ\text{C} \ \& \ V_{RRM}$
Critical rate of rise of off-state voltage	dv/dt	200V/usec.	$T_J = 125^\circ\text{C}$

55C

Figure 1
Typical Forward On-State Characteristics

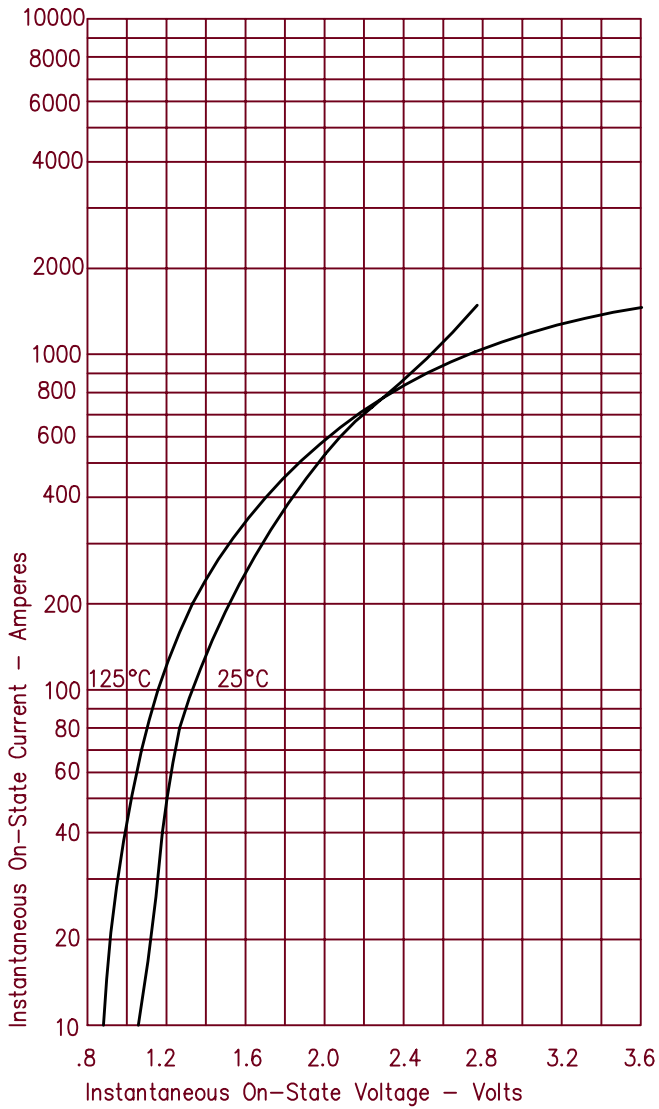


Figure 3
Maximum Power Dissipation

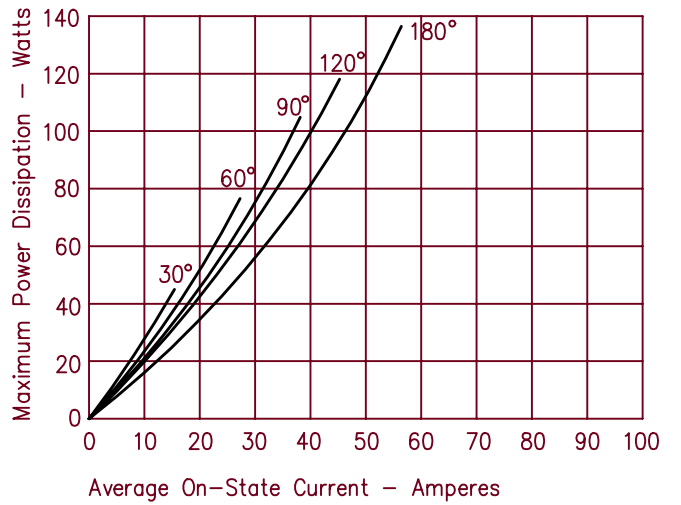


Figure 4
Transient Thermal Impedance

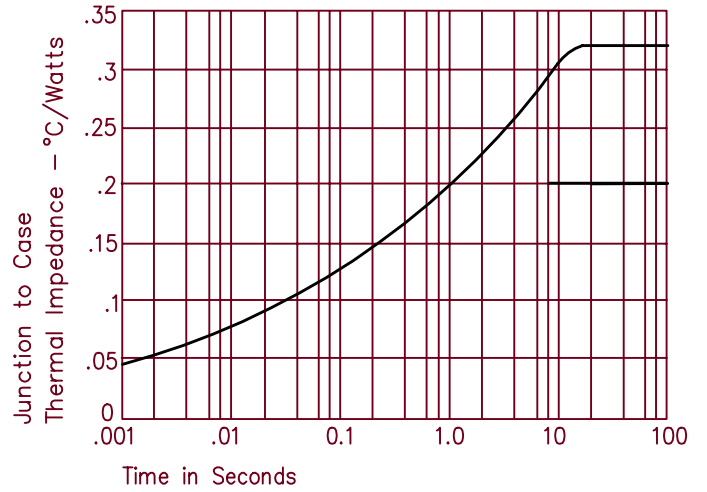


Figure 2
Forward Current Derating

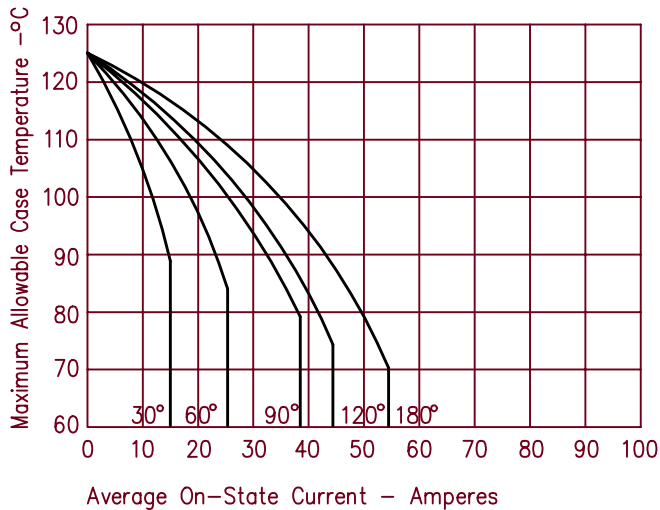
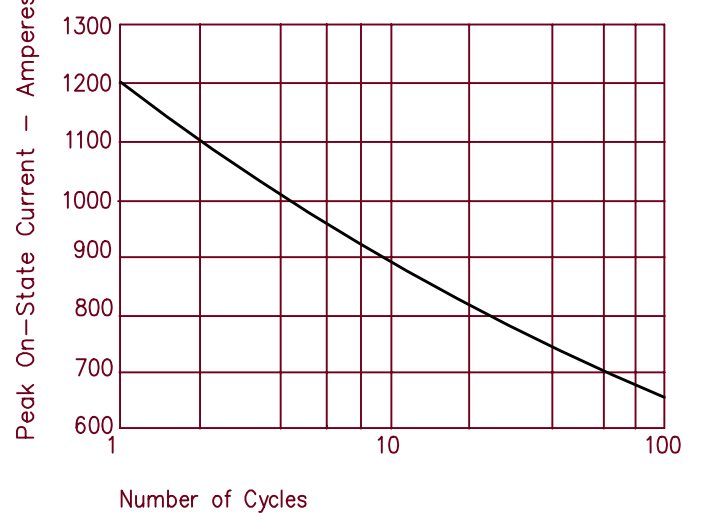


Figure 5
Maximum Nonrepetitive Surge Current





LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.