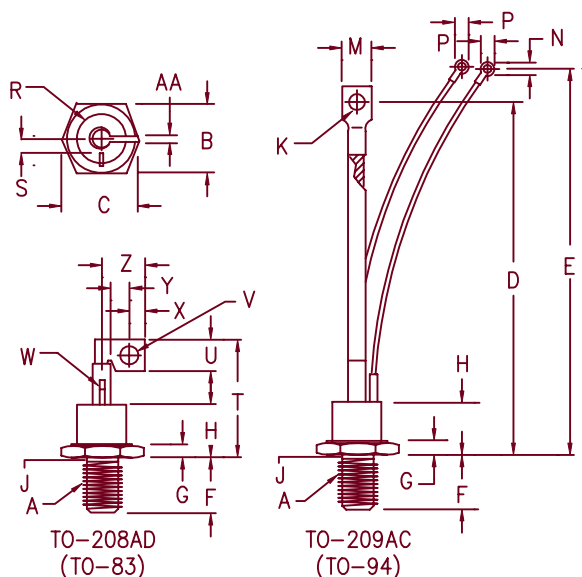


Silicon Controlled Rectifier

DSCC Series 99003



Note 1: 1/2-20 UNF-3A

Note 2: Full thread within 2 1/2 threads

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	

Catalog Number

TO-83

99003-2N1792 2
99003-2N1793 2
99003-2N1795 2
99003-2N1797 2
99003-2N1798 2
99003-2N1799 2
99003-2N1800 2

TO-94

99003-2N1910 1
99003-2N1911 1
99003-2N1913 1
99003-2N1915 1
99003-2N1916 1
99003-2N1805 1
99003-2N1806 1

Forward & Reverse Repetitive Blocking

50V
100V
200V
300V
400V
500V
600V

- Replacement for MIL-PFR-19500/204
- Available as JAN, JANTX, JANTXV equivalent
- 1000 Amperes surge current
- 200V/us dv/dt
- 40 us turn-off time

Electrical Characteristics

Max. RMS on-state current
Max. average on-state cur.
Max. peak on-state voltage
Max. holding current
Max. peak one cycle surge current
Max. I²t capability for fusing

I_{T(RMS)} 79 Amps
I_{T(AV)} 50 Amps
V_{TM} 2.1 Volts
I_H 75 mA
I_{TSM} 1000 A
I²t 4,150A²S

T_C = 83°C
T_C = 83°C
I_{TM} = 220 A(peak)
T_C = 83°C, 60 Hz
t = 8.3 ms

Thermal and Mechanical Characteristics

Operating junction temp range
Storage temperature range
Maximum thermal resistance
Typical thermal resistance (greased)
Max mounting torque
Weight

T_J
T_{STG}
R_{θJC}
R_{θCS}

-40°C to 125°C
-40°C to 150°C
0.40°C/W Junction to case
0.20°C/W Case to sink
150 inch pounds
TO-94 Approx. 3.6 ounces (102.0 grams) typical
TO-83 Approx. 3.24 ounces (91.8 grams) typical



COLORADO

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3-16-01 Rev. IR

DSCC Series 99003

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	40 usec.	$T_J = 100^\circ\text{C}$

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: $I_{TM} = 50\text{A}$, $di/dt = 50\text{A (pk)}$, $t_{on} = 100 + 50\text{usec}$, $-di/dt = 25\text{A/usec}$, $V_R = 50\text{V}$
 $dv/dt = 20\text{V/usec}$, $V_{DRM} = \text{rated}$

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}	70mA	$T_J = 25^\circ\text{C}$
Max. peak gate power	P_{GM}	5W	
Average gate power	$P_{G(AV)}$	0.5W	$t_p = 10 \text{ usec.}$
Max. peak gate current	I_{GM}	2.0A	
Max. peak gate voltage (forward)	V_{GM}	10V	
Max. peak gate voltage (reverse)	V_{GM}	-5.0V	

Blocking

Max. leakage current	I_{DRM}	5mA	$T_J = 125^\circ\text{C} \ \& \ V_{DRM}$
Max. reverse leakage	I_{RRM}	5mA	$T_J = 125^\circ\text{C} \ \& \ V_{RRM}$
Critical rate of rise of off-state voltage	dv/dt	200V/usec.	$T_J = 125^\circ\text{C}$

DSCC Series 99003

Figure 1
Typical Forward On-State Characteristics

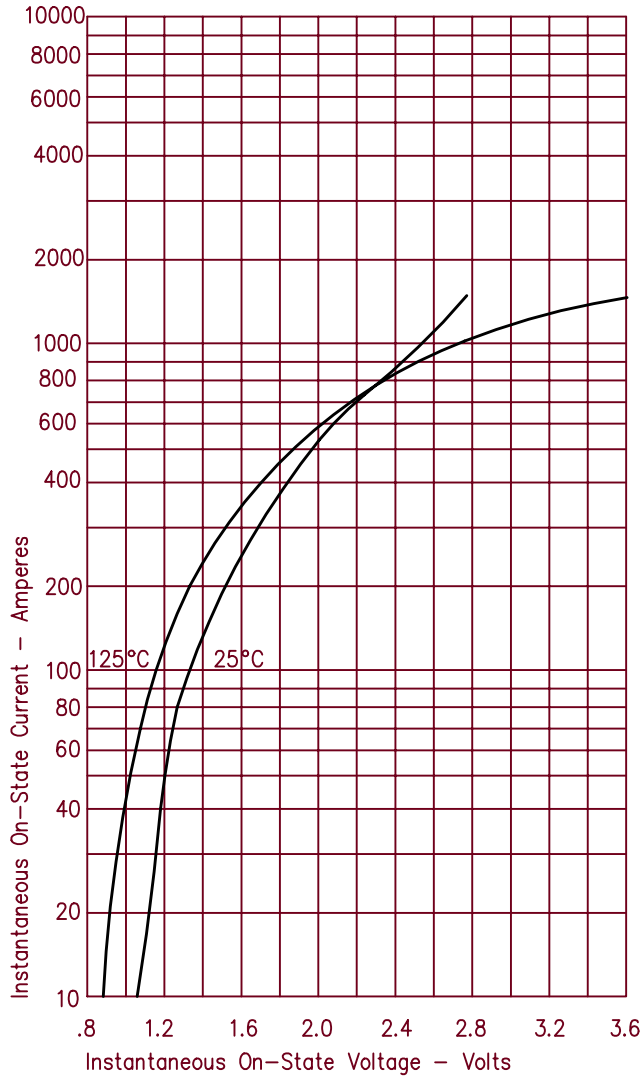


Figure 3
Transient Thermal Impedance

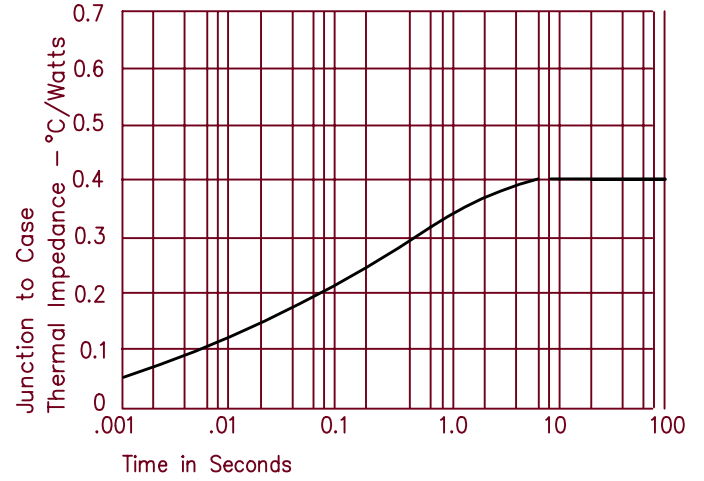


Figure 2
Forward Current Derating

