



6 Lake Street, Lawrence, MA 01841
 1-800-446-1158 / (978) 620-2600 / Fax: (978) 689-0803
 Website: <http://www.microsemi.com>

PRELIMINARY TECHNICAL DATA SHEET

Gort Road Business Park, Ennis, Co. Clare, Ireland
 Tel: +353 (0) 65 6840044 Fax: +353 (0) 65 6822298

SILICON CARBIDE DUAL SCHOTTKY POWER RECTIFIER

DEVICES

MSiCSE50120CC MSiCSE50120CA MSiCSE50120D

**50A / 1200V
 Silicon Carbide
 Dual Schottky Rectifier**

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RWM}	1200	V
Surge Peak Reverse Voltage	V_{RSM}	1200	V
DC Blocking Voltage	V_{DC}	1200	V
Average Forward Current, 25°C	I_o	50	Apk
Peak Surge Forward Current @ $t_p = 8.3\text{ms}$, half sinewave, $I_o = 0$; $V_{RM} = 0$	I_{FSM}	150	Apk
Thermal Resistance, Junction to Case	$R_{\theta jc}$		$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient	$R_{\theta ja}$		$^\circ\text{C/W}$
Operating Junction Temperature	T_j	-65°C to $+225$	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65°C to $+225$	$^\circ\text{C}$

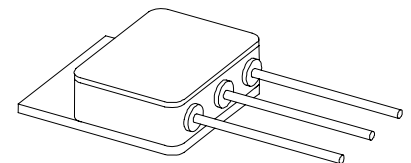
ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted) (Per Diode)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Forward Voltage* $I_F = 10\text{A}$, $T_j = 25^\circ\text{C}$ $I_F = 25\text{A}$, $T_j = 25^\circ\text{C}$ $I_F = 50\text{A}$, $T_j = 25^\circ\text{C}$	V_F		1.2 1.5 1.8	V
Reverse Current $V_R = 1200\text{V}$, $T_j = 25^\circ\text{C}$ $V_R = 1200\text{V}$, $T_j = 175^\circ\text{C}$	I_R		200 500	μA
Junction Capacitance $V_R = 0\text{V}$ $f = 1\text{MHz}$	C_j		TBD	pF

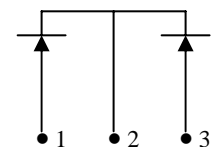
* Pulse test: Pulse width 300 μsec , Duty cycle 2%

Note:

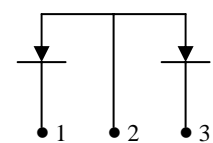
- Derate linearly @ tbd



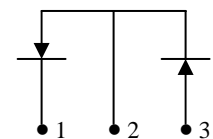
**TO-258
 MSiCSE50120**



CC – COMMON CATHODE

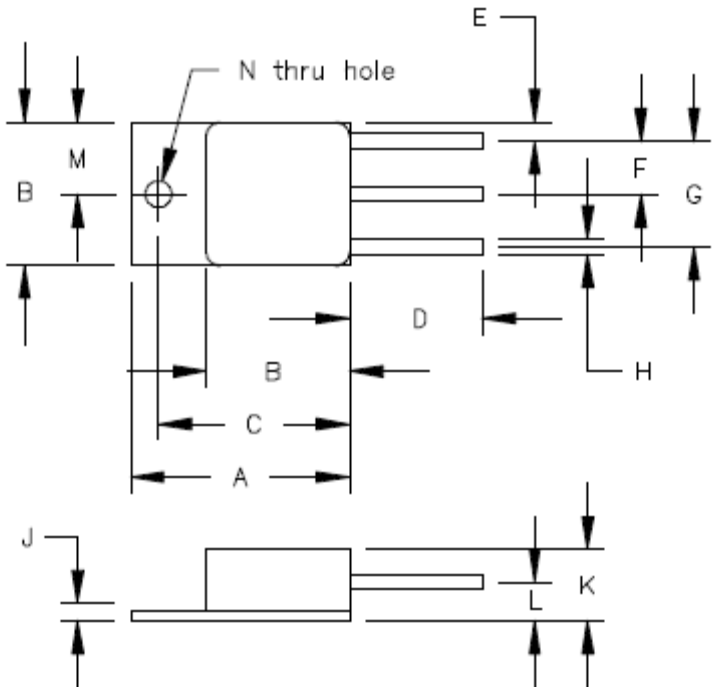


CA – COMMON ANODE



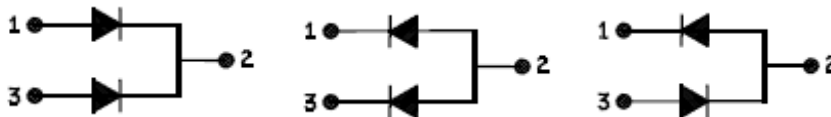
D - DOUBLER

PACKAGE DIMENSIONS



DIMENSIONS	
	Inches
A	.825 ± .010
B	.540 ± .010
C	.720 ± .005
D	.500 min
E	.145 ref
F	.200 ± .005
G	.400 ± .005
H	∅ .060 ± .005
J	.040 ± .007
K	.270 max
L	.145 ± .010
M	.345 ± .005
N	∅ .160 ± .005
P	.690 ± .005

SCHEMATIC



NOTE:

1. Dimensions are in inches.
2. Glass meniscus included in dimension A and B.

FIGURE 1: Physical dimensions and configuration TO-258