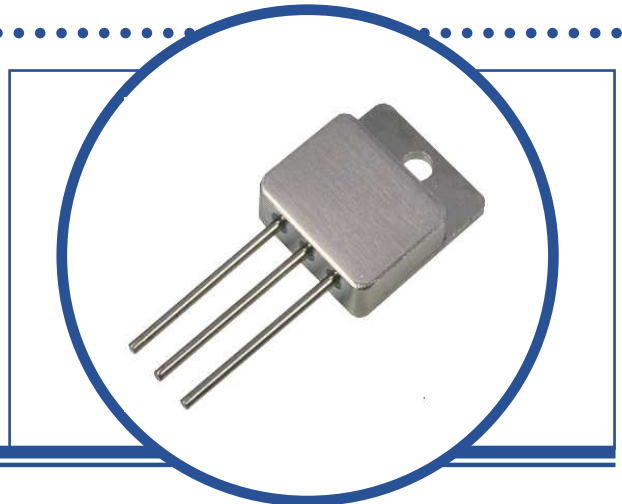


SILICON CARBIDE POWER SCHOTTKY RECTIFIER DIODE

SML020DH12

- 1200V, 20A (2x10A) Rectifier Diodes
- High Temperature Operation $T_j = 200^\circ\text{C}$
- Effective Zero Reverse and Forward Recovery
- High Frequency Operation
- High Speed Low Loss Switching
- High-Reliability Screening Options Available



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

V_{RRM}	Repetitive Peak Reverse Breakdown Voltage	1200V
V_{RSM}	Surge Peak Reverse Voltage	1200V
V_{DC}	DC Blocking Voltage	1200V
$I_{F(AVG)}$	Average Forward Current	20A
$I_{F(PEAK)}$	Peak Forward Surge Current, $T_C = 125^\circ\text{C}$	50A
P_D	Power Dissipation (per leg)	116W
T_J	Junction Temperature Range	-55 to $+200^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55 to $+225^\circ\text{C}$

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	1.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS (Per Die, $T_C = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
$V_F^{(1)}$	Forward Voltage	$I_F = 10\text{A}$ $T_C = 175^\circ\text{C}$		1.6	1.8	V
				2.5	3.0	
I_R	Reverse Current	$V_R = V_{RRM}$ $T_C = 175^\circ\text{C}$		10	200	μA
				20	1000	

DYNAMIC CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

Q_C	Total Capacitive Charge	$I_F = 10\text{A}$ $di/dt = 500\text{A}/\mu\text{s}$	$V_R = 1200\text{V}$ $T_J = 25^\circ\text{C}$		61	nC
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Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

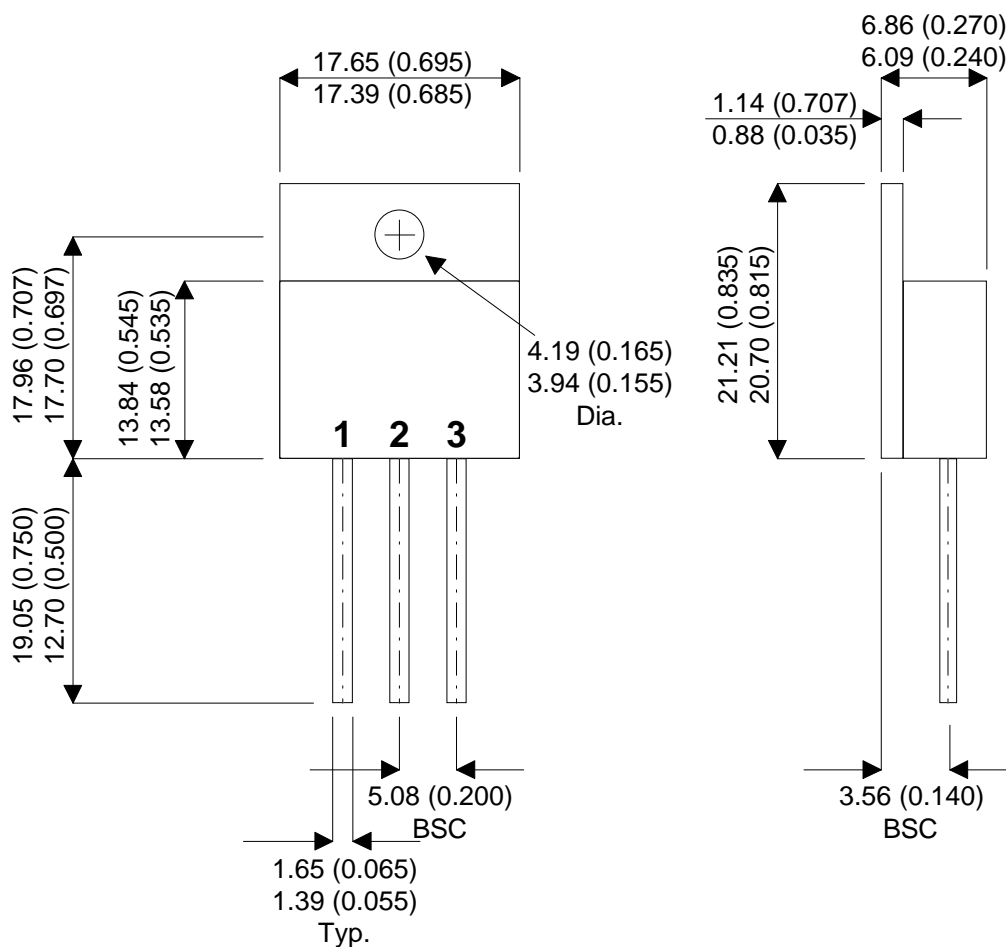


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SILICON CARBIDE POWER SCHOTTKY RECTIFIER DIODE SML020DH12

MECHANICAL DATA

Dimensions in mm (Inches)



TO258 (TO-258AA)

Pin 1 – Anode Pin 2 - Cathode Pin 3 – Anode

