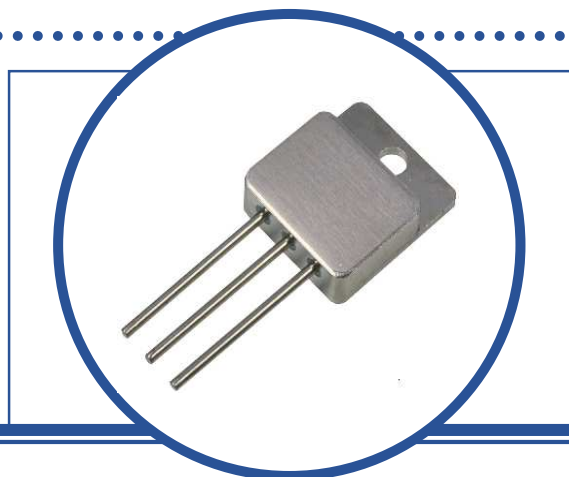


# SILICON CARBIDE POWER SCHOTTKY RECTIFIER DIODE

## 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
$I_F(\text{AVG})$	Average Forward Current	20A
$I_F(\text{PEAK})$	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 2.5	1.8 3.0	V
$I_R$	Reverse Current	$V_R = V_{RRM}$ $T_C = 175^\circ\text{C}$		10 20	200 1000	$\mu\text{A}$

### 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	$\text{nC}$
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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.



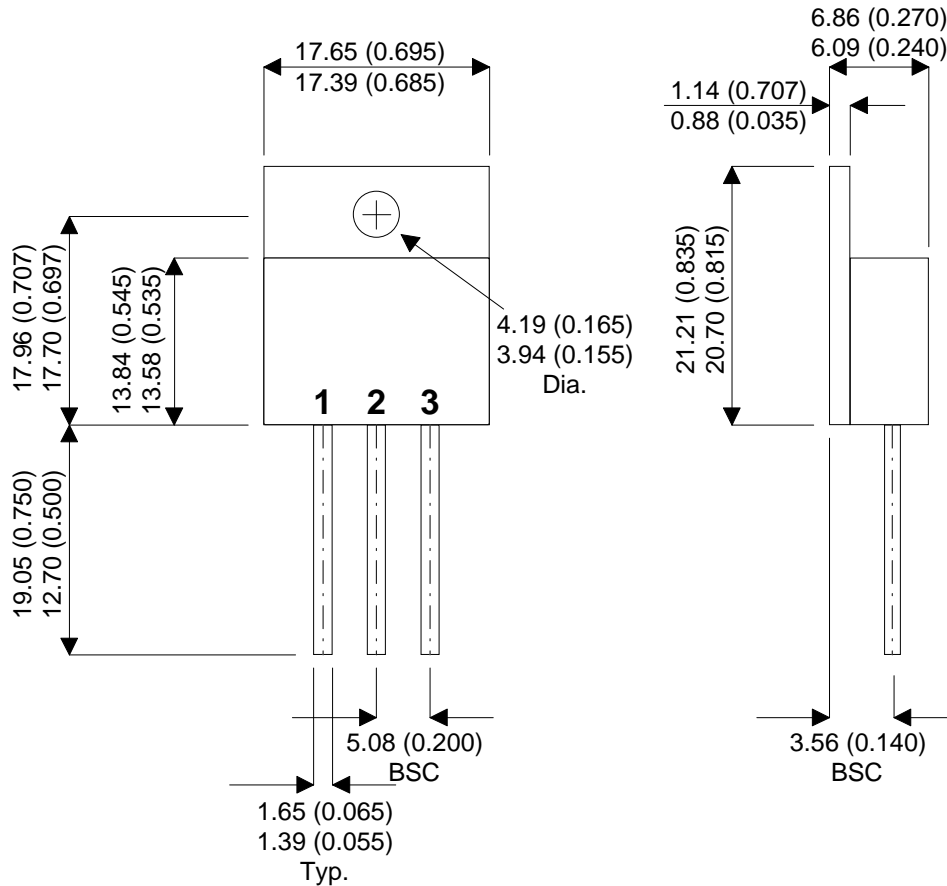
A subsidiary of  
TT electronics plc.

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### MECHANICAL DATA

Dimensions in mm (Inches)



### TO258 (TO-258AA)

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

