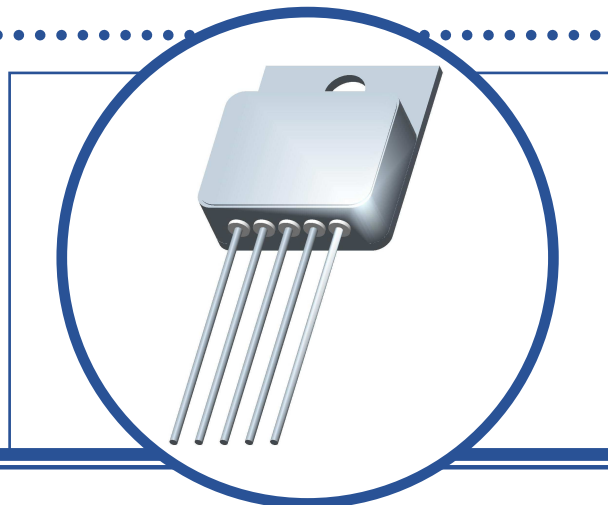


SILICON CARBIDE POWER SCHOTTKY RECTIFIER DIODE BRIDGE

SML010FBDH06

- 600V, 10A Full Bridge Rectifier Configuration
- High Temperature Operation $T_j = 200^\circ\text{C}$
- Effective Zero Reverse and Forward Recovery
- High Speed Low Loss Switching
- High Frequency Operation
- High-Reliability Screening Options Available



ABSOLUTE MAXIMUM RATINGS (Per Die, $T_c = 25^\circ\text{C}$ unless otherwise stated)

V_{RRM}	Repetitive Peak Reverse Breakdown Voltage	600V
V_{RSM}	Surge Peak Reverse Voltage	600V
V_{DC}	DC Blocking Voltage	600V
$I_F(\text{AVG})$	Average Forward Current	10A
I_{FSM}	Non Repetitive Peak Forward Surge Current, $t_p = 10\mu\text{s}$	45A
T_j	Junction Temperature Range	-55 to $+200^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55 to $+225^\circ\text{C}$

THERMAL PROPERTIES (Per Die)

Symbols	Parameters	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	2.0	$^\circ\text{C/W}$

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	$I_F = 10\text{A}$ $T_c = 175^\circ\text{C}$		1.8 2.0	2.2 2.7	V
I_R	Reverse Current	$V_R = V_{RRM}$ $T_c = 175^\circ\text{C}$		10	100 1000	μA

DYNAMIC CHARACTERISTICS

Q_C	Total Capacitive Charge	$I_F = 10\text{A}$ $di/dt = 500\text{A}/\mu\text{s}$	$V_R = 600\text{V}$ $T_j = 25^\circ\text{C}$		32	nC
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Notes

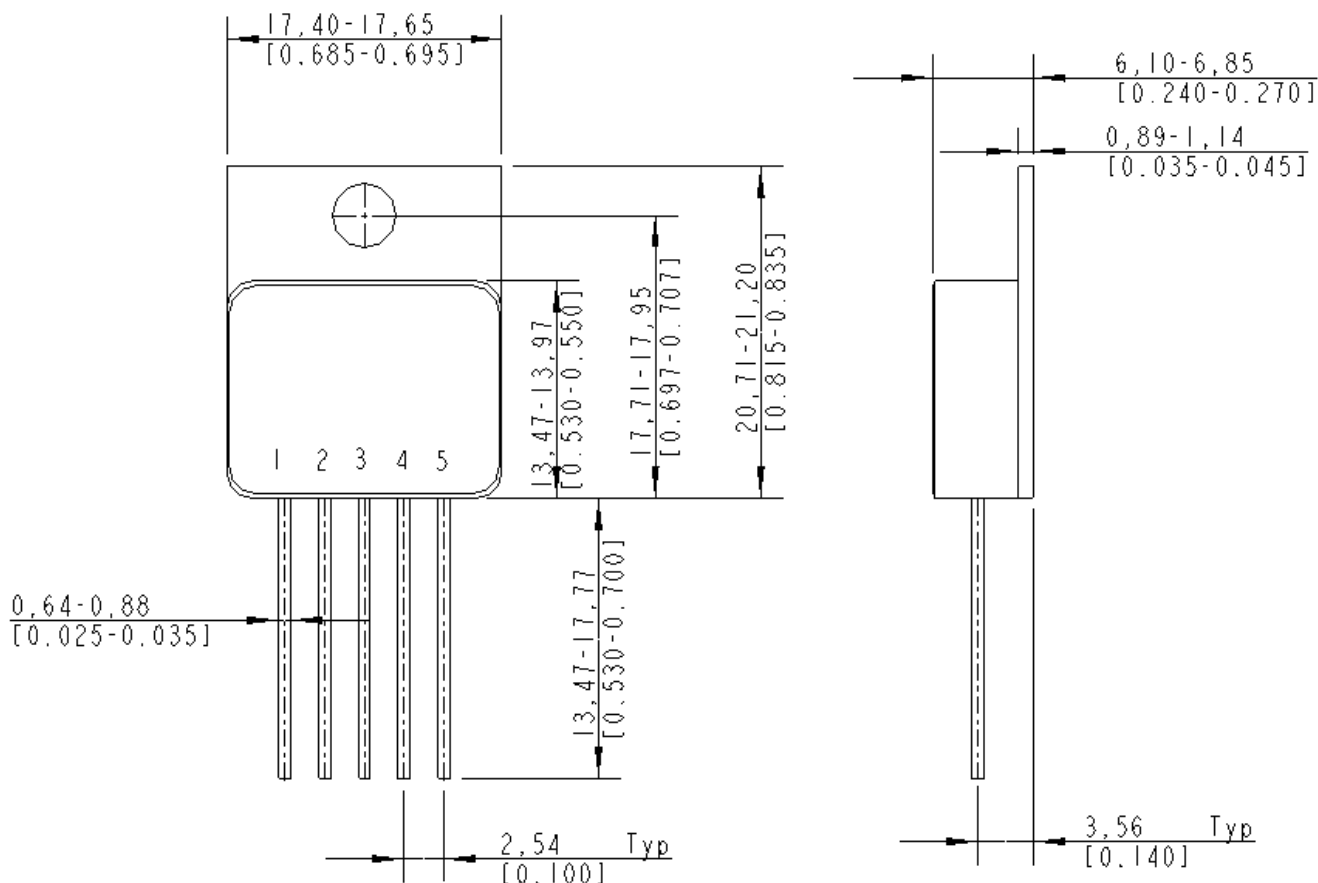
(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

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.

ULTRAFAST RECOVERY POWER RECTIFIER DIODE SML010FBDH06

MECHANICAL DATA

Dimensions in mm (Inches)



TO258D (MO-078AA)

PIN 1	- Rectified DC
PIN 2	+ AC
PIN 3	N/C
PIN 4	- AC
PIN 5	+ Rectified DC

