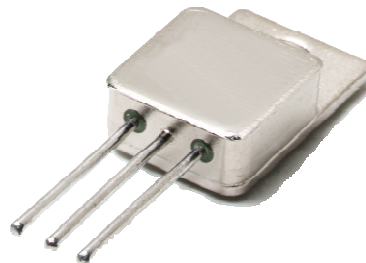


SiC SCHOTTKY DIODE

SML10SIC06YC

- Semelab's Silicon Carbide (SiC) Schottky diodes exhibit low forward voltage and superb high temperature performance.
- Suitable for high-frequency hard switching applications, where system efficiency and reliability are paramount.
- No reverse recovery time due to absence of minority carrier injection.



ABSOLUTE MAXIMUM RATINGS (T_J = 25°C unless otherwise stated)

V _R	DC Reverse Voltage	600V
V _{RRM}	Repetitive Peak Reverse Voltage	600V
I _F	DC Forward Current (T _J = 175°C)	10A
I _{FRM}	Repetitive Peak Forward Current ⁽¹⁾	67A
I _{FSM}	Surge Peak Forward Current ⁽²⁾	250A
P _D	Total Power Dissipation at Derate Above 25°C	100W 0.5 W/°C
T _J	Junction Temperature Range	-55 to +225°C
T _{stg}	Storage Temperature Range	-55 to +225°C

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
R _{θJC}	Thermal Resistance, Junction To Case			2.0	°C/W

Notes

(1) T_c = 25°C, T_p = 10ms, Half Sine Wave, D = 0.3

(2) T_c = 25°C, T_p = 10μs

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.

Semelab Limited

Coventry Road, Lutterworth, Leicestershire, LE17 4JB

Telephone +44 (0) 1455 556565

Fax +44 (0) 1455 552612

Email: sales@semelab-tt.com

Website: <http://www.semelab-tt.com>



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SiC SCHOTTKY DIODE SML10SIC06YC

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

Static Characteristics

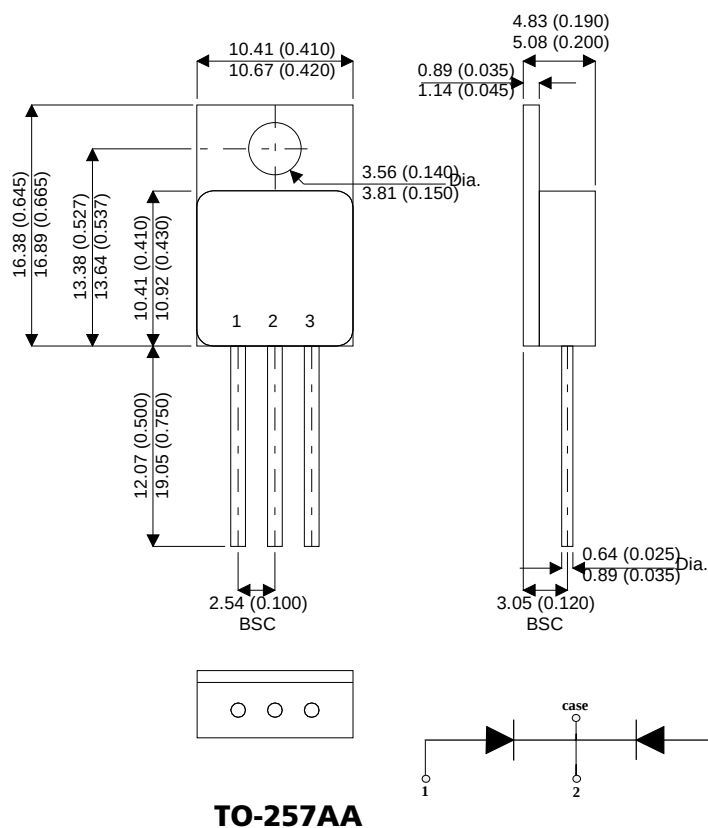
Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
V_F	Forward Voltage	$I_F = 10\text{A}$		1.5	1.8	V
		$T_J = 175^\circ\text{C}$		2.0	2.4	
I_R	Reverse Current	$V_R = 600\text{V}$		10	50	μA
		$T_J = 175^\circ\text{C}$		20	200	

Dynamic Characteristics

Q_C	Total Capacitive Charge	$V_R = 600\text{V}$, $I_F = 10\text{A}$ $\delta i / \delta t = 500\text{A}/\mu\text{s}$		25		nC
C	Total Capacitance	$V_R = 1\text{V}$, $f = 1\text{MHz}$		480		pF
		$V_R = 200\text{V}$, $f = 1\text{MHz}$		50		
		$V_R = 400\text{V}$, $f = 1\text{MHz}$		42		

MECHANICAL DATA

Dimensions in mm (inches)



Pin 1 – Anode 1

Pin 2 – Case / Common Cathode

Pin 3 - Anode 2