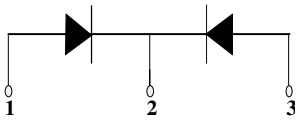
SML10SIC03NC

SMD1 (TO-276AB) PACKAGE



SiC SCHOTTKY DIODE

V_R 300V
I_F 2x10A

Semelab's Silicon Carbide (SiC) Schottky diodes exhibit low forward voltage, zero reverse recovery, and superb high-temperature performance.

The devices employ Semelab's proven hermetic packaging technology and are suitable for high-frequency hard-switching applications, where system efficiency and reliability are paramount.

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

Symbol	Parameter	Rating	Units
V_R	DC Reverse Voltage	300	V
V_{RRM}	Repetitive Peak Reverse Voltage	300	V
V_{RSM}	Surge Peak Reverse Voltage	300	V
I_F	DC Forward Current T_C = 100°C	10	A
I_{FRM}	Repetitive Peak Forward Current T_J = 150°C, T_C = 100°C, D = 0.1	45	A
I_{FSM}	Surge Peak Forward Current T_C = 25°C, tp = 10µs	100	A
P_D	Power Dissipation T_C = 25°C	70W	W
T_J, T_{stg}	Operating Junction and Storage Temperature	-55 to +175	°C

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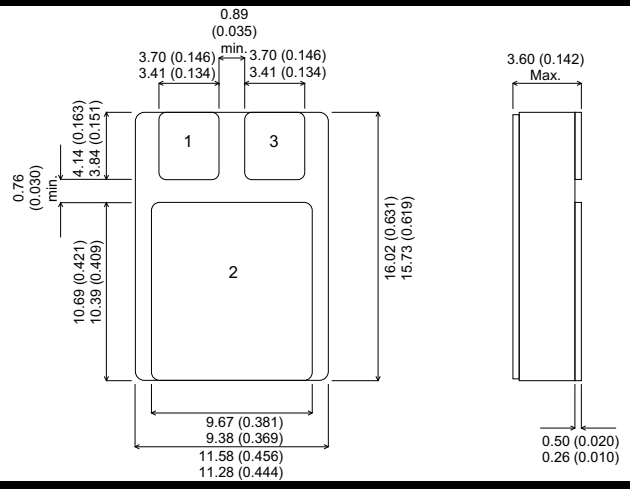
ELECTRICAL CHARACTERISTICS at T_J = 25°C unless otherwise stated (per leg)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
Static Characteristics						
V_F	Forward Voltage	I_F = 10A		1.5	1.7	V
		I_F = 10A, T_J = 150°C		1.5	1.9	V
I_R	Reverse Current	V_R = 300V		15	200	µA
		V_R = 300V, T_J = 150°C		20	1000	µA
Dynamic Characteristics						
Q_c	Total Capacitive Charge	V_R = 200V, I_F = 10A, di/dt = 200A/µs, T_J = 150°C		23		nC
t_{rr}	Reverse Recovery Time			n.a.		ns
C	Total Capacitance	V_R = 0V, f = 1MHz		600		pF
		V_R = 150V, f = 1MHz		55		pF
		V_R = 300V, f = 1MHz		40		pF

THERMAL CHARACTERISTICS (per leg)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
R_{th}	Thermal Resistance, Junction to Case	TO276AB Package		2.1		°C/W

PACKAGE DIMENSIONS mm (in)



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