

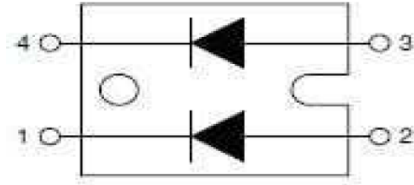
MDQ160.12

SIC Schottky Diode



Features:

- Max junction temperature 175°C
- High-speed switching possible
- High forward surge capability
- High frequency operation
- Positive temperature coefficient on V_F



Typical applications:

- General purpose
- Switch mode power suppliers
- Power factor correction (PFC)
- Inverter welders and battery chargers
- Industrial motor drives

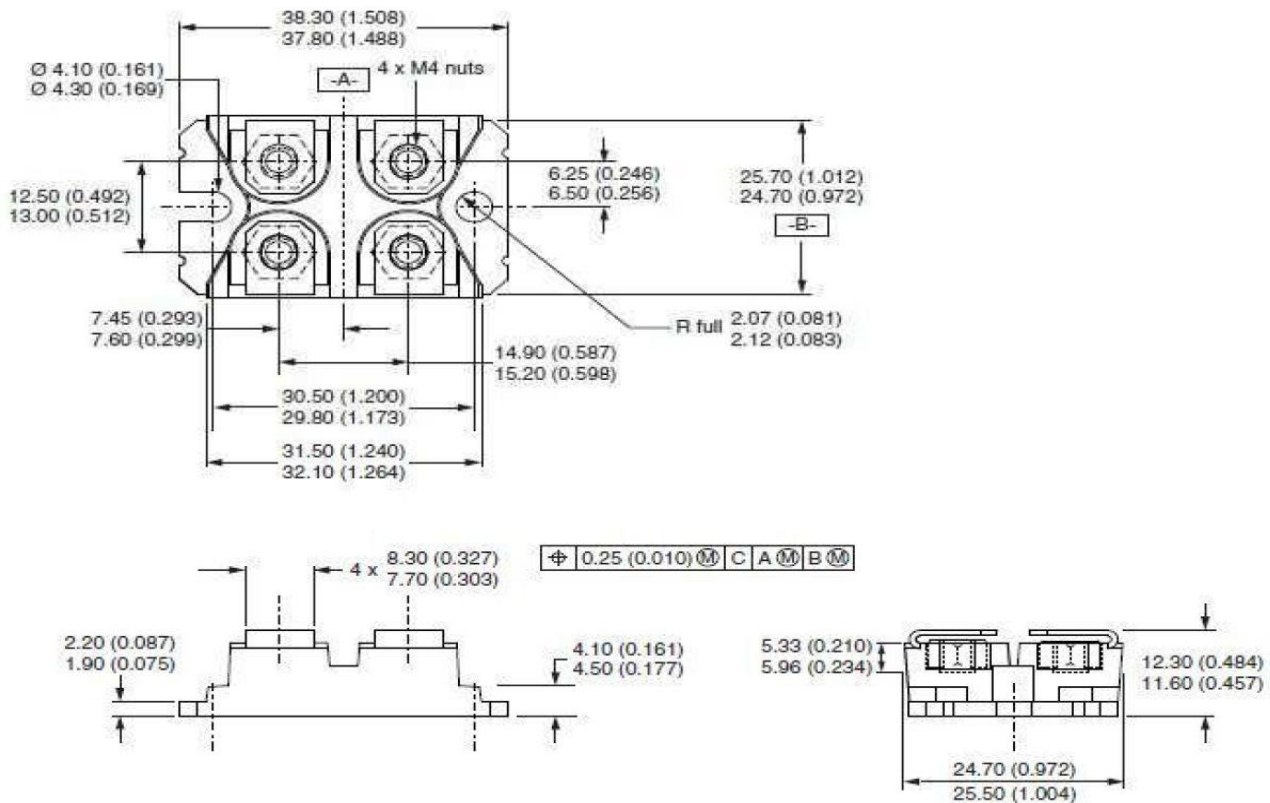
Symbol	Characteristics	Test Conditions	Value			Unit
			Min	Typ	Max	
V_{RMM}	Repetitive peak reverse voltage	$T_J = 25^\circ\text{C}$			1200	V
$V_{R(RMS)}$	Reverse voltage, total rms value	$T_J = 25^\circ\text{C}$			840	V
I_F	Forward current	$T_c = 70^\circ\text{C}$			160(2x80)	A
I_{FSM}	Surge peak current	180° half sine wave 50Hz	$T_J = 25^\circ\text{C}$		600	A
			$T_J = 150^\circ\text{C}$		500	A
$I_{F,MAX}$	Non-repetitive peak forward surge current	tp = 10ms			3200	V
V_F	Forward voltage	$I_F = 40\text{A}$, pulse test with PW = 0.3ms	$T_J = 25^\circ\text{C}$	1.18		V
			$T_J = 150^\circ\text{C}$	1.32		V
			$T_J = 175^\circ\text{C}$	1.38		V
		$I_F = 80\text{A}$, pulse test with PW = 0.3ms	$T_J = 25^\circ\text{C}$	1.42	1.50	V
			$T_J = 150^\circ\text{C}$	1.87	2.10	V
			$T_J = 175^\circ\text{C}$	1.98		V
I_R	Reverse current	$V = V_R$, pulse test with PW = 30ms	$T_J = 25^\circ\text{C}$	60		μA
			$T_J = 150^\circ\text{C}$	400		μA
C_J	Junction capacitance	f = 1MHz, $V_R = 1\text{V}$		5.90		nF
		f = 1MHz, $V_R = 800\text{V}$		270		pF
Q_C	Capacitive charge	$V_R = 800\text{V}$		368		nC
V_{ISO}	Isolation terminal/copper base	AC: 1 minute			2500	V
Screw torque	Mounting (M4)			1.5		N·m
	Terminals (M4)			1.5		N·m
$R_{th(j-c)}$	Thermal resistance, junction to case	Per diode		0.36	0.44	$^\circ\text{C/W}$
T_j	Junction temperature		-55		+175	$^\circ\text{C}$
T_{stg}	Storage temperature		-55		+150	$^\circ\text{C}$



SCOMES

MDQ160.12

Outline:



(dimensions in mm)

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Scomes Srl reserves the right to change any specification without notice