MOSPEC

MIM02120Y

1200V Silicon Carbide Schottky Diode

DESCRIPTION：

- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behavior
- Excellent Surge Current Capability
- Positive Temperature Coefficient on VF
- High frequency operation
- RoHS Compliant

V_{RRM}	1200V
I_F	2A (Tc=160℃)
Q_C	16nC

TYPICAL APPLICATIONS：

- SMPS, PFC
- UPS
- Motor drivers

SMA

MAXIMUM RATINGS (at T_J = 25 °C, unless otherwise specified)

Characteristic	Condition	Symbol	Value	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	1200	V
Continuous Forward Current	Tc=25℃ Tc=160℃	I_F	8 2	A
Non-Repetitive Forward Surge Current	Tc=25℃, t_P=10ms, Half sine pulse	I_{FSM}	24	A
i^2t value	Tc=25℃, t_P=10ms	$\int i^2dt$	2.9	A^2S
Power dissipation	Tc=25℃ Tc=110℃	P_{tot}	50 22	W
Operation Junction temperature		Tj	-55~+175	℃
Storage temperature		T_{STG}	-55~+175	℃

THERMAL CHARACTERISTICS

Characteristic	Condition	Symbol	Typical	Unit
Thermal resistance, junction - case		$R_{th(j-C)}$	2.98	℃/W

ELECTRICAL CHARATERISTICS (at T_J = 25 °C, unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
DC Blocking Voltage	V_{DC}	1200			V
Forward Voltage IF = 2A, Tc =25℃ IF = 2A, Tc =175℃	V_F		 1.4 2.1		V
Reverse Current VR = 1200V, Tc =25℃ VR = 1200V, Tc =175℃	I_R		 1 2		uA
Total Capacitive Charge VR = 800V	Q_C		16		nC
Total capacitance VR = 1V, f =1MHz VR = 400V, f =1MHz VR = 800V, f =1MHz	C		 112 17 14		pF
Capacitance Stored Energy VR = 800 V	Ec		5.1		uJ

TYPICAL CHARACTERISTICS CURVES

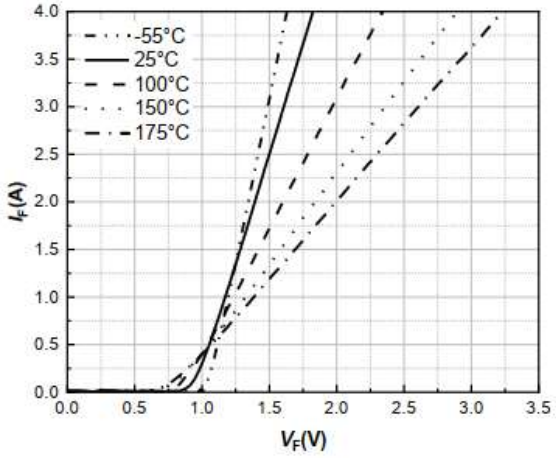


Figure 1. Forward characteristics

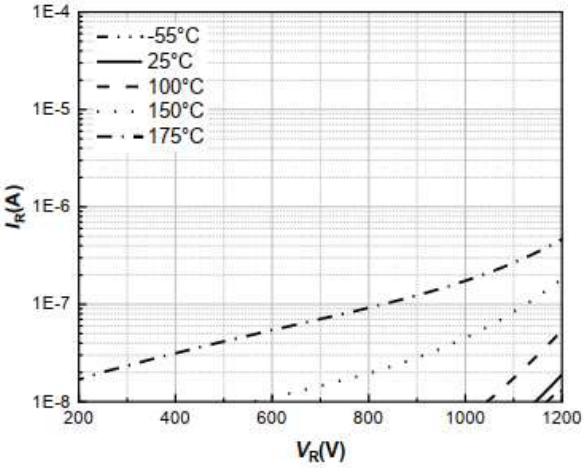


Figure 2. Reverse current as function of reverse voltage

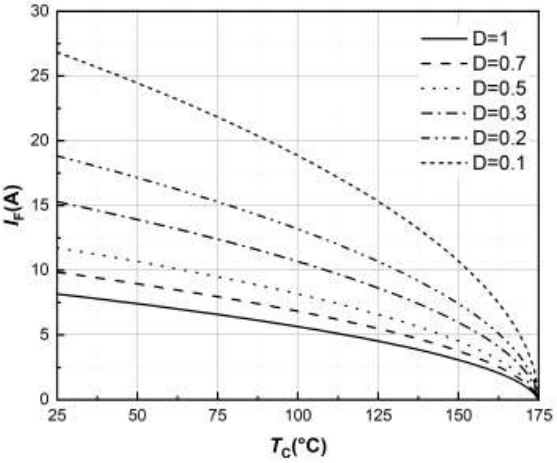


Figure 3. Diode forward current as function of temperature, D=duty cycle

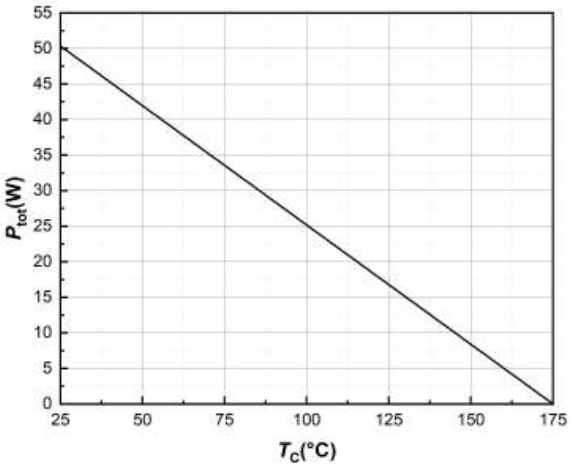


Figure 4. Power dissipation as function of case temperature

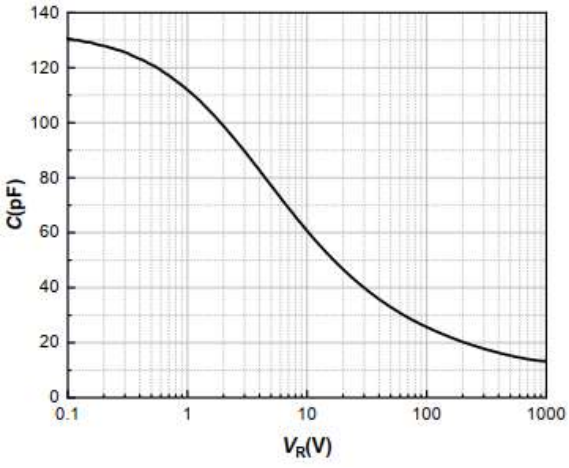


Figure 5. Capacitance as function of reverse voltage, C=f(VR); Tj=25°C; f=1 MHz

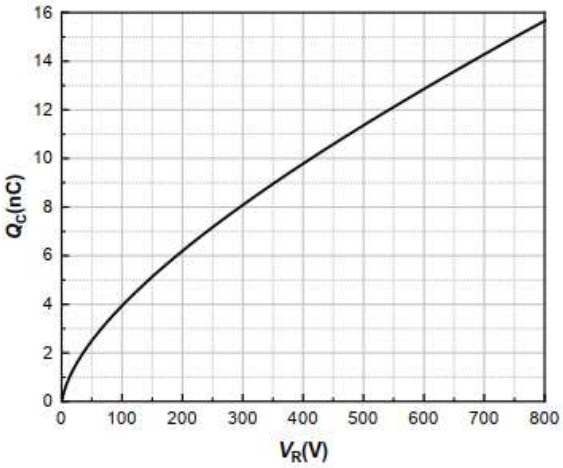


Figure 6. Reverse charge as function of reverse voltage

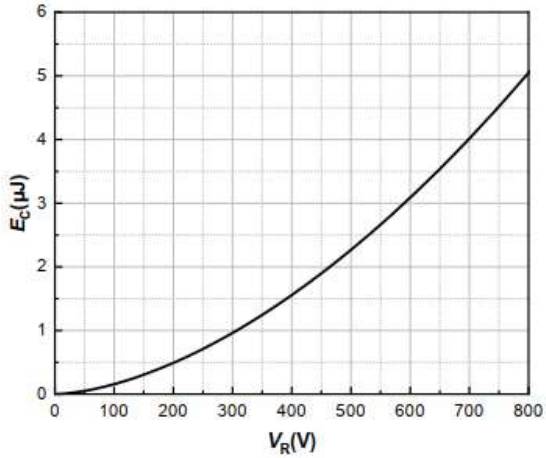


Figure 7. Capacitance Stored Energy

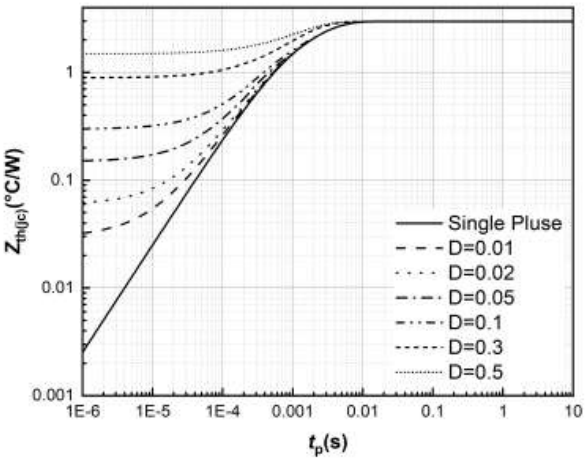
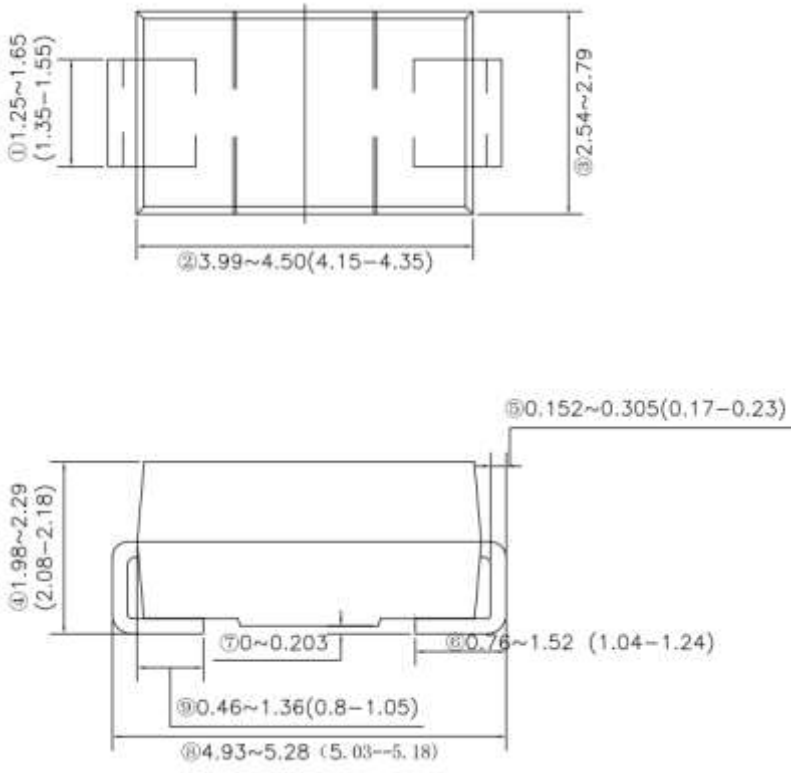


Figure 8. Max. transient thermal impedance, Zth(jc)= f(tp), parameter: D =tp/T

• SMA Package outlines : Dimensions in (mm)



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