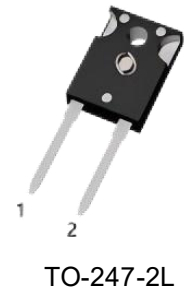
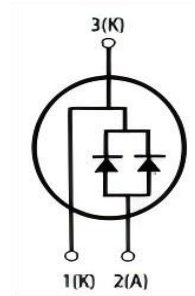


Silicon Carbide Schottky Diode 1200V/40A

Parameter	Value	Unit
VRRM	1200	V
IF(TC= 149°C)	40	A
Qc	160	nC



FEATURES

- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behavior
- High temperature operation
- High frequency operation

APPLICATIONS

- SMPS, PFC
- Solar application, UPS, EV/HEV
- Motor drives, Wind turbine, Rail traction

MAXIMUM RATED VALUES (at TJ = 25 °C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	VRRM	1200	V
Surge Peak Reverse Voltage	VRSM	1200	V
Continuous Forward Current TC = 25°C TC = 135°C TC = 149°C	IF	107.9 51.7 40	A
Repetitive Peak Forward Surge Current TC = 25°C, tp = 10ms, Half Sine Pulse	IFRM	175	A
Non-Repetitive Forward Surge Current TC = 25°C, tp = 10ms, Half Sine Pulse	IFSM	350	A
i2t Value TC= 25°C, tp = 10ms, Half Sine Pulse	$\int i^2 dt$	612.5	A ² s
Power Dissipation TC = 25°C TC = 110°C	Ptot	517 224	W
Operating Junction Range	TJ	-55 to +175	°C
Storage Temperature Range	Tstg	-55 to +175	°C
Mounting Torque , M3 Screw	M	1	Nm

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

Parameter	Symbol	Test Condition	Value			Unit
			min.	typ.	max.	
DC Blocking Voltage	VDC		1200	-	-	V
Forward Voltage	V _F	I _F = 40A T _J = 25°C T _J = 175°C	- -	1.47 2.2	1.7 2.5	V
Reverse Current	I _R	V _R = 1200V T _J = 25°C T _J = 175°C	- -	11 64	100 200	μA
Total Capacitance	C	f = 1MHz V _R = 0V V _R = 400V V _R = 800V	- - -	2470 150 124	- - -	pF
Total Capacitive Charge	Q _C	V _R = 800V T _J = 25°C	-	160	-	nC
Capacitance Stored Energy	EC	V _R = 800V	-	82	-	uJ

THERMAL CHARACTERISTICS

Parameter	Symbol	Test Condition	Value			Unit
			min.	typ.	max.	
Thermal Resistance, junction-case	R _{th(j-c)}		-	0.29	-	°C/W

TYPICAL CHARACTERISTICS CURVES

Figure 1. Forward Characteristics

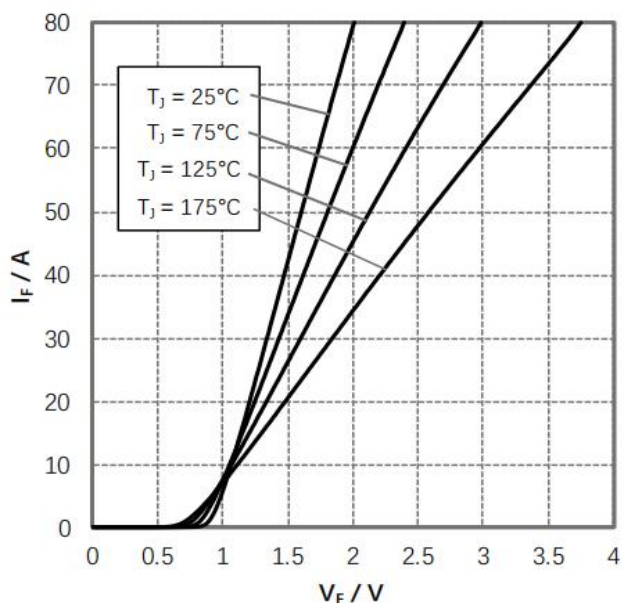


Figure 2. Reverse Characteristics

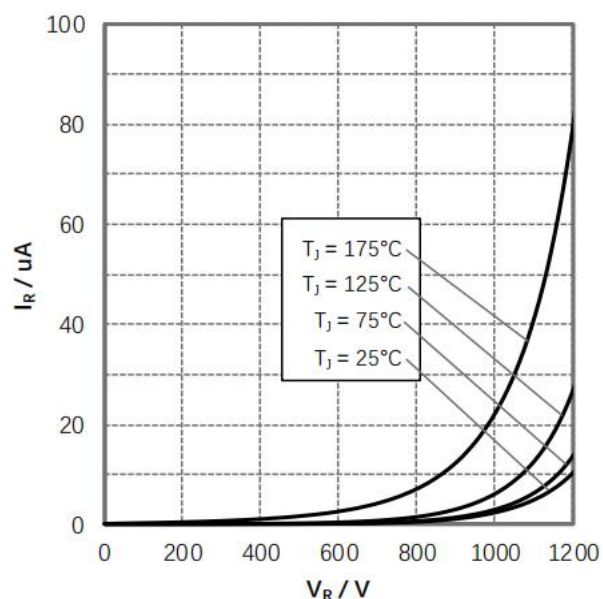


Figure 3. Power Derating

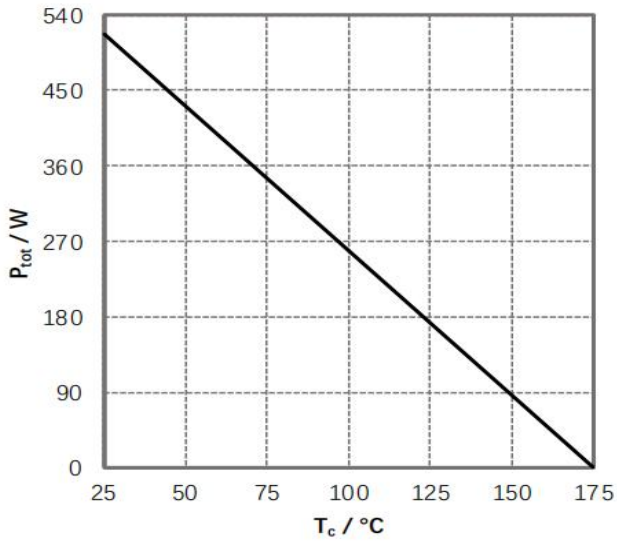


Figure 4. Current Derating

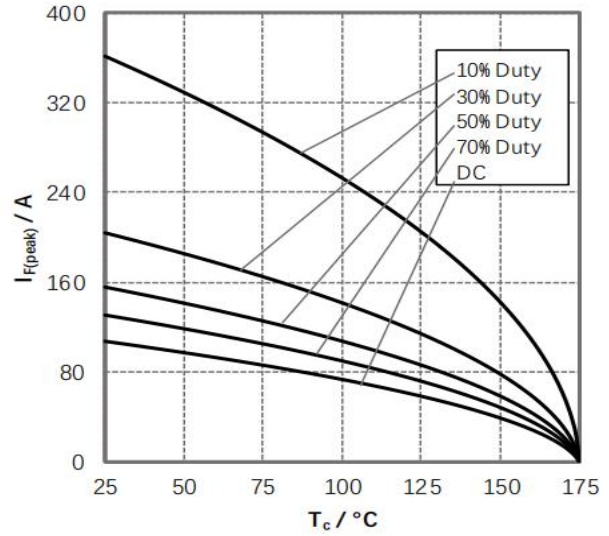


Figure 5. Capacitance vs. Reverse Voltage

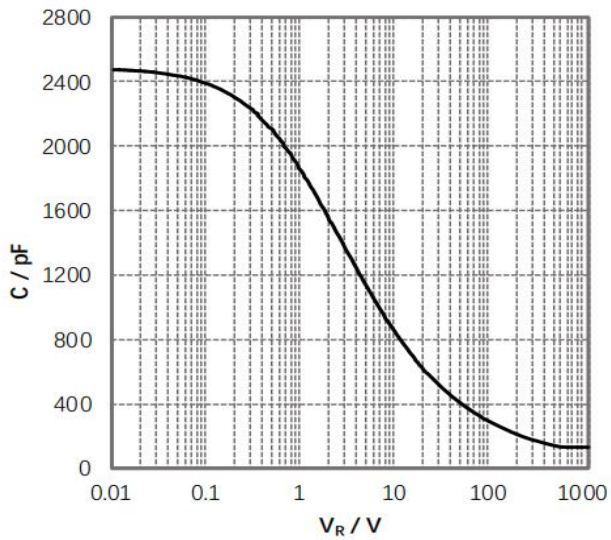


Figure 6. Reverse Charge vs. Reverse Voltage

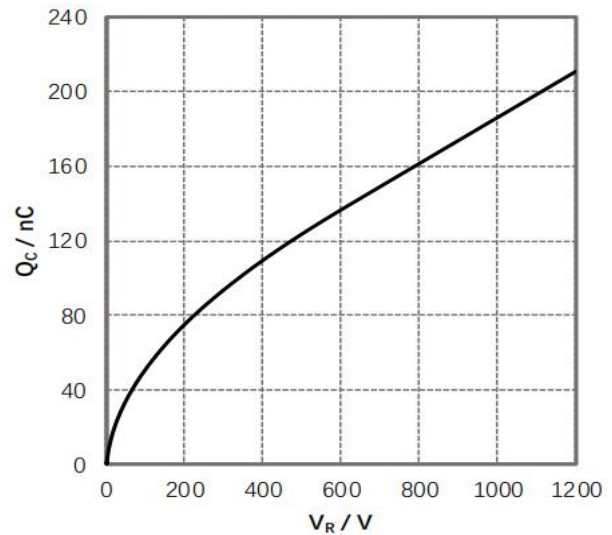


Figure 7. Capacitance Stored Energy

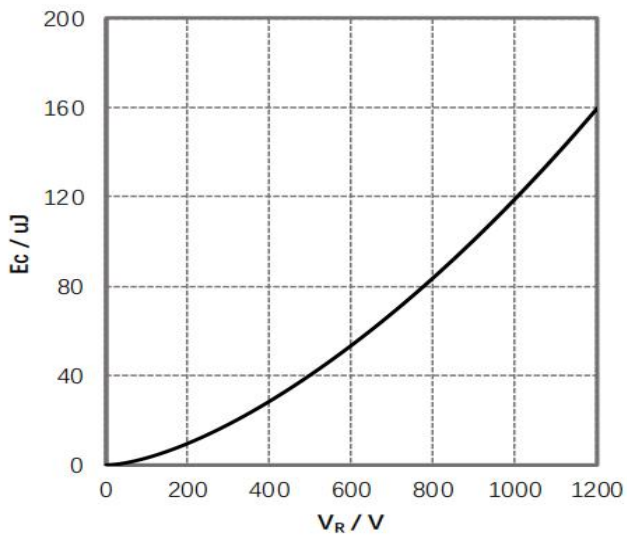
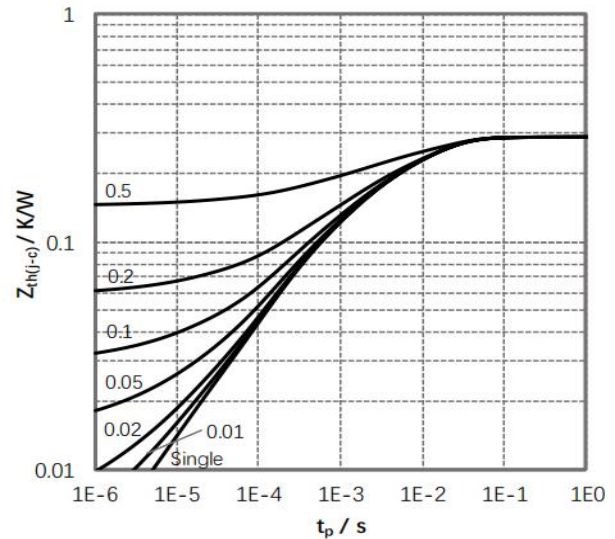
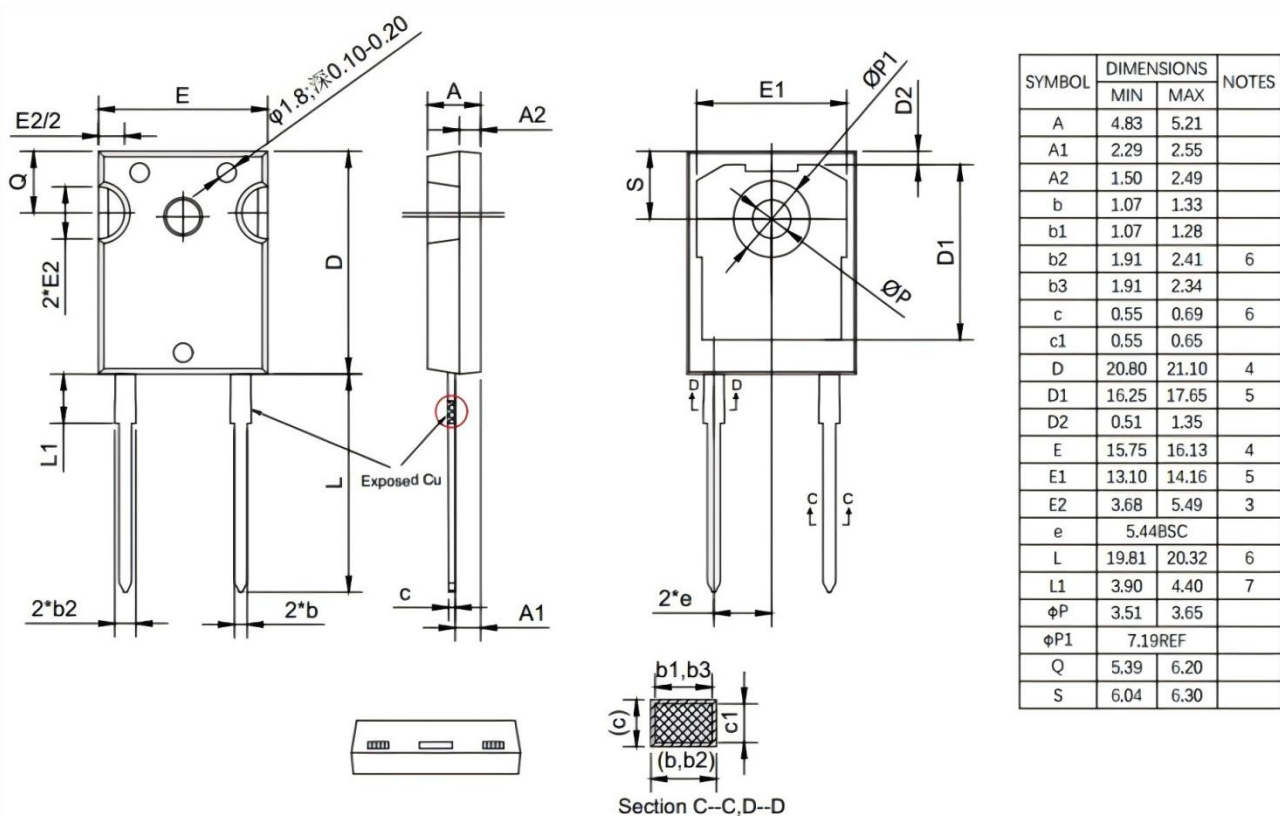


Figure 8. Transient Thermal Impedance



PACKAGE OUTLINE



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