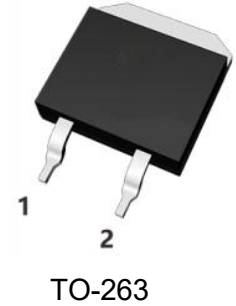
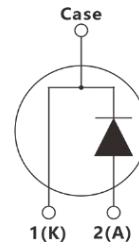


## Silicon Carbide Schottky Diode

Parameter	Value	Unit
$V_{RRM}$	1200	V
$I_F$	8	A
$Q_C$	38	nC



### Features

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

### Applications

- Boost Converter
- Power Factor Correction
- Switched-Mode Power Supply
- Uninterruptible Power Supply

### Maximum Ratings (at $T_J=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	1200	V
Surge Peak Reverse Voltage	$V_{RSM}$	1200	V
Continuous Forward Current $T_C = 25^\circ\text{C}$ $T_C = 135^\circ\text{C}$ $T_C = 152.5^\circ\text{C}$	$I_F$	23.9 11.3 8	A
Repetitive Peak Forward Surge Current $T_C = 25^\circ\text{C}$ , $t_p = 10\text{ms}$ , Half Sine Pulse, $D=0.1$ , 1000Cycle	$I_{FRM}$	48	A
Non-Repetitive Forward Surge Current $T_C = 25^\circ\text{C}$ , $t_p = 10\text{ms}$ , Half Sine Pulse	$I_{FSM}$	96	A
$i^2t$ Value $T_C = 25^\circ\text{C}$ , $t_p = 10\text{ms}$ , Half Sine Pulse	$\int i^2 dt$	46	$\text{A}^2\text{s}$
Power dissipation $T_C = 25^\circ\text{C}$ $T_C = 110^\circ\text{C}$	$P_{tot}$	106 46	W
Operating junction Range	$T_J$	-55 to +175	$^\circ\text{C}$
Storage temperature Range	$T_{stg}$	-55 to +175	$^\circ\text{C}$

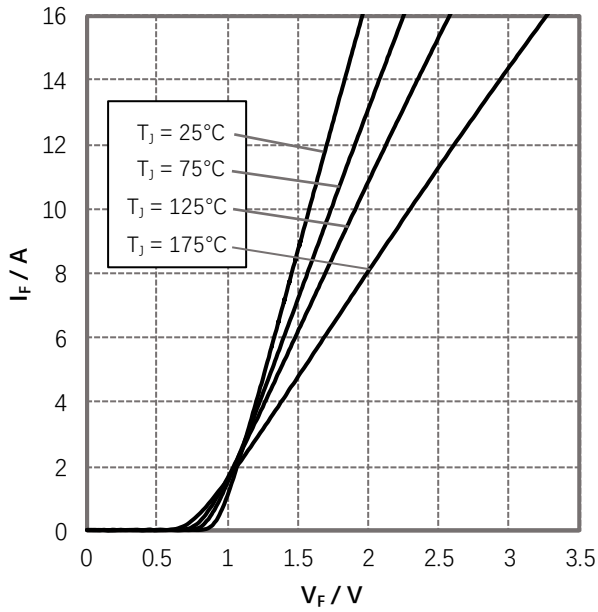
**Thermal Characteristics**

Parameter	Symbol	Typ.	Unit
Thermal resistance, junction – case.	$R_{thJC}$	1.41	$^{\circ}C/W$

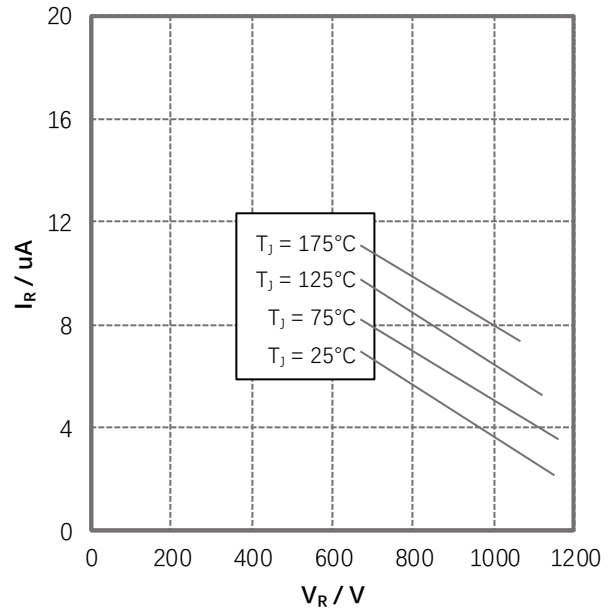
**Electrical Characteristics**(at  $T_J=25^{\circ}C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
DC Blocking Voltage	$V_{DC}$		1200			V
Instantaneous forward voltage per leg	$V_F$	$I_F = 8A$ $T_J = 25^{\circ}C$ $T_J = 175^{\circ}C$		1.45 1.99	1.7 2.5	V
Reverse current per leg	$I_R$	$V_R = 1200V$ $T_J = 25^{\circ}C$ $T_J = 175^{\circ}C$		3.5 17	50 100	$\mu A$
Total Capacitance	C	$f = 1MHz$ $V_R = 0V$ $V_R = 400V$ $V_R = 800V$		595 38 30		pF
Total Capacitive Charge	$Q_C$	$V_R = 800V$ $T_J = 25^{\circ}C$		38		nC
Capacitance Stored Energy	$E_C$	$V_R = 800V$		20		$\mu J$

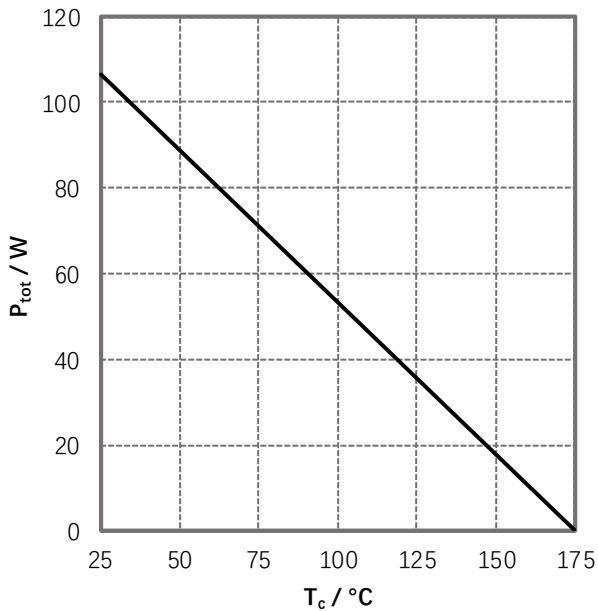
**Typical Characteristics**



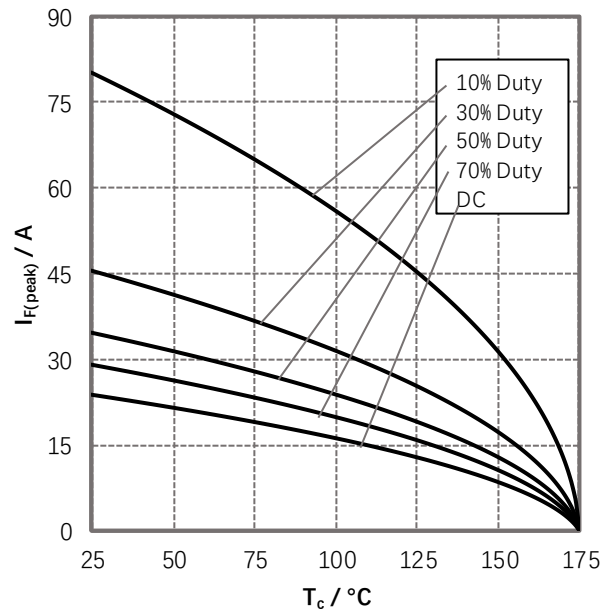
**Figure 1. Forward Characteristics**



**Figure 2. Reverse Characteristics**



**Figure 3. Power Derating**



**Figure 4. Current Derating**  
Valid for switching of above 20kHz,  
excluding D.C. curve

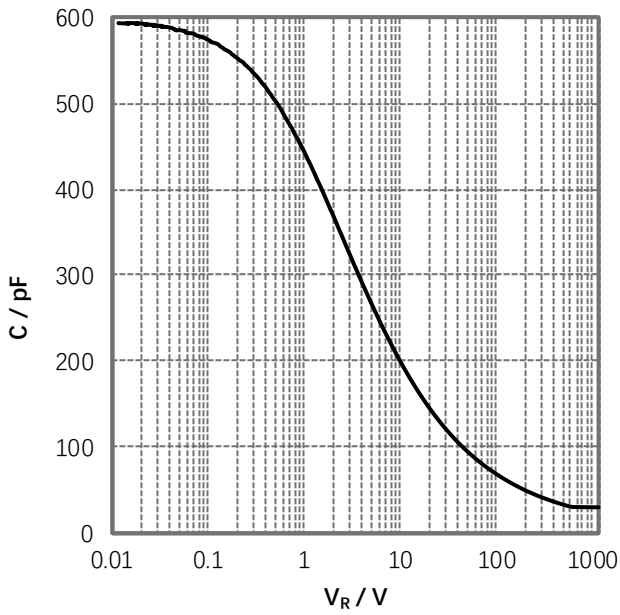


Figure 5. Capacitance vs. Reverse Voltage

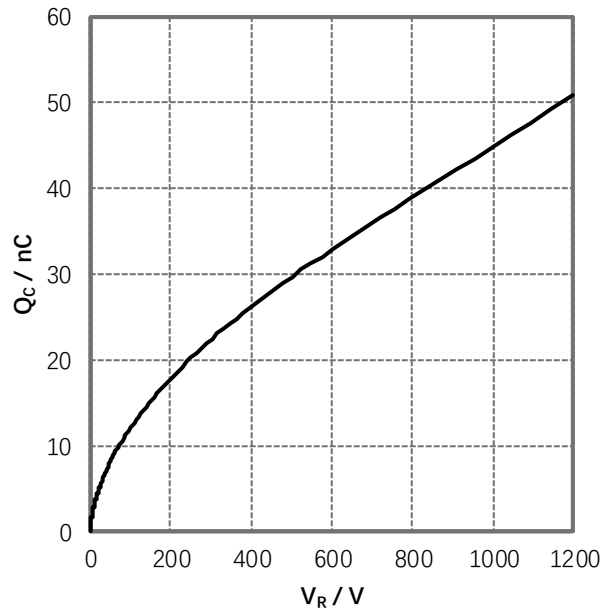


Figure 6. Reverse Charge vs. Reverse Voltage

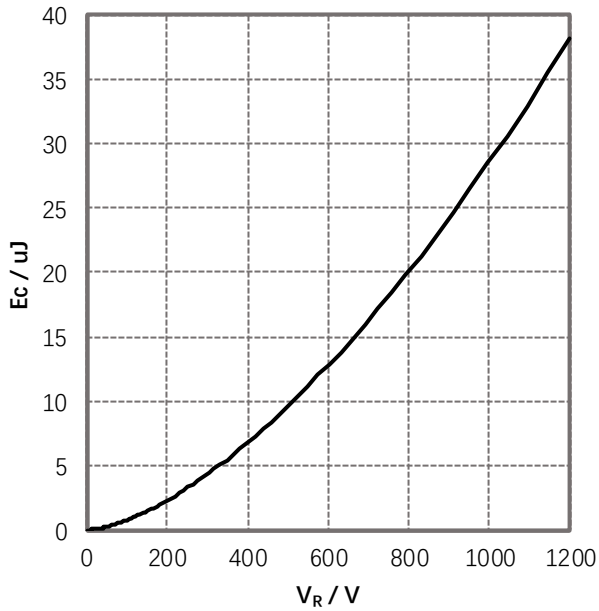


Figure 7. Capacitance Stored Energy

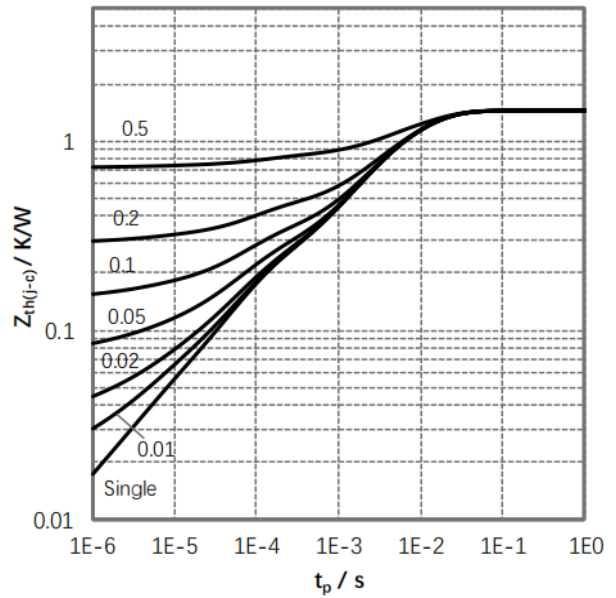
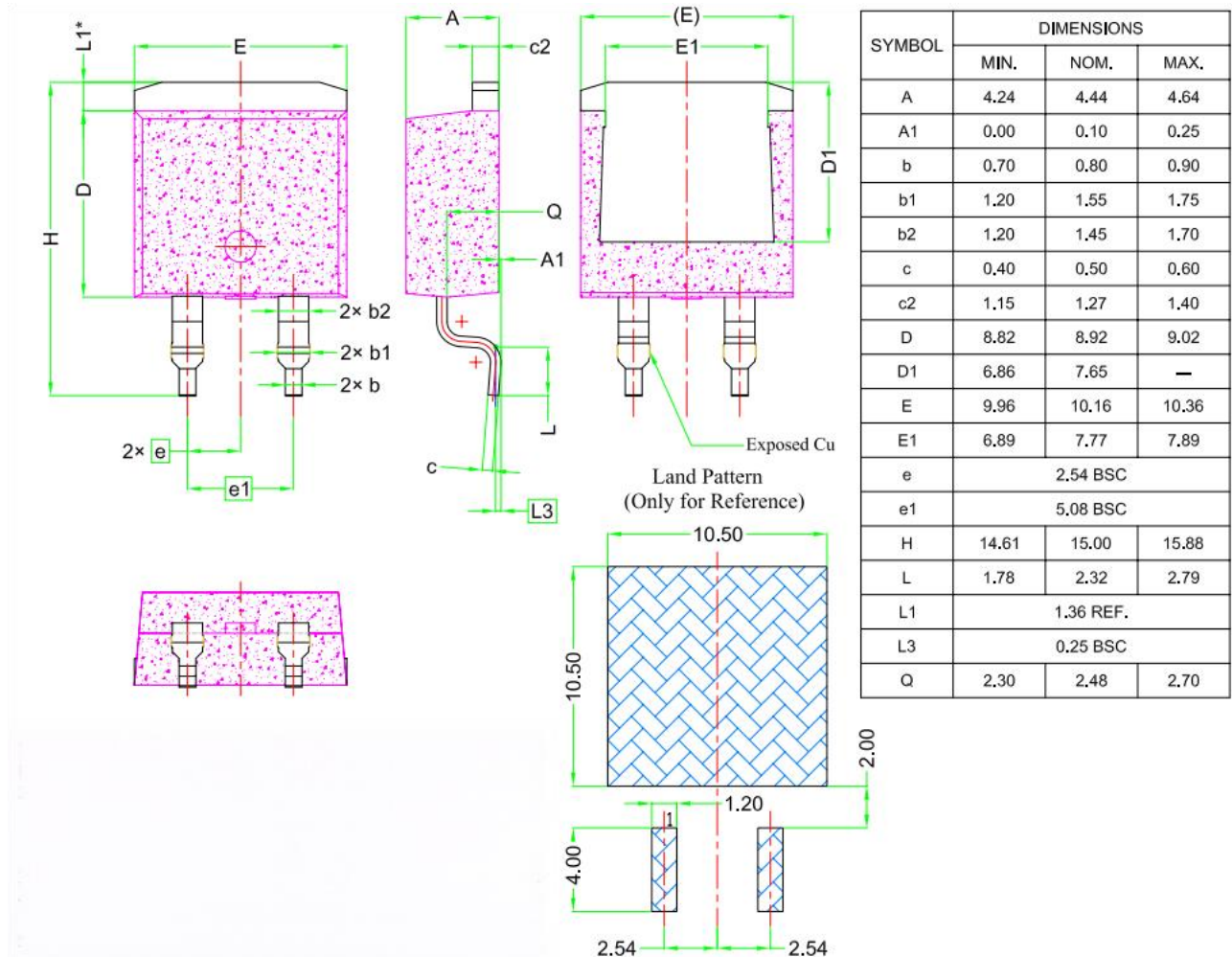


Figure 8. Transient Thermal Impedance

### Package Outlines(Unit:mm)

#### TO-263



#### \*Important Usage Information and Disclaimer

The specifications of Zhuhai Hypersemi Co., Ltd. products are not guarantees of product characteristics. They reflect typical performance expected in standard applications, which may vary with specific uses. Users must conduct prior testing for their applications and make necessary adjustments.

Users are responsible for the safety of applications utilizing our products and must implement adequate safety measures to prevent physical injury, fire, or other risks in case of product failure. It is the user's duty to ensure that application designs comply with all applicable laws and standards. Our products must not be used in any applications where a product failure could reasonably result in personal injury, unless specifically authorized in a signed document by Zhuhai Hypersemi Co., Ltd.

No representations or warranties are made regarding the accuracy or completeness of this information, including any claims of non-infringement of third-party intellectual property rights. Zhuhai Hypersemi Co., Ltd. assumes no liability for any applications or uses of its products and does not grant any licenses to its intellectual property rights or those of others. We also make no claims regarding non-infringement of third-party intellectual property rights that may arise from applications.

Due to technical requirements, our products may contain hazardous substances. For details, please contact your nearest sales office. This document replaces all previous information and may be updated. We reserve the right to make changes.