V_{RRM}	650V
I_F	40A(T_C=153℃)
Q_C	62nC

650V SILICON CARBIDE
SCHOTTKY DIODE

◇Features

- High surge current capability
- No reverse recovery
- Positive Temperature Coefficient
- Easy to paralleling
- Halogen-free / RoHS compliant

Halogen Free RoHS COMPLIANT

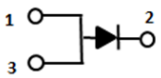
◇Benefits

- High-speed switching
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability
- System efficiency improvement

TO-263A (D2PAK)

◇Applications

- Solar inverter
- Power factor correction
- Data Center
- Switch mode power supply



Maximum Ratings (Tc=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit	Note
V_{RRM}	Repetitisve peak reverse voltage		650	V	
I_F	Continuous forward current	Tc=25℃	61	A	Figure 3
		Tc=135℃	28	A	
		Tc=153℃	20	A	
I_{FSM}	Non-repetitive forward surge current	Tc=25℃, t_p=10ms,Half sine pulse	142	A	
		Tc=110℃, t_p=10ms,Half sine pulse	135	A	
I_{FRM}	Repetitive Peak Forward Surge Current	Tc=25℃, t_p=10ms,Half sine pulse	130	A	
$\int i^2\,dt$	i^2t value	Tc=25℃, t_p=10ms	100	A^2S	
		Tc=110℃, t_p=10ms	91	A^2S	
P_{tot}	Power Dissipation	Tc=25℃	250	W	Figure 4
		Tc=110℃	108	W	
		Tc=150℃	41	W	
T_j, T_{stg}	Operating and Storage Temperature		-55 to +175	℃	

Electrical Characteristics (Tc=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Value			Unit	Note
			Min.	Typ.	Max.		
V_{DC}	DC blocking voltage		650	-	-	V	
V_F	Forward voltage	I_F=10A	-	1.16	-	V	Figure 1
		I_F=20A, Tc=25℃	-	1.35	1.6	V	
		I_F=20A, Tc=175℃		1.7		V	
I_R	Reverse current	V_R=650V, Tc=25℃	-	6	100	uA	Figure 2
		V_R=650V, Tc=175℃		15		uA	
Q_C	Total capacitive charge	V_R=400V	-	62	-	nC	Figure 6
C	Total capacitance	V_R=1V, f=1MHZ	-	906	-	pF	Figure 5
		V_R=200V, f=1MHZ	-	122	-	pF	
		V_R=400V, f=1MHZ	-	118	-	pF	
E_C	Capacitance Stored Energy	V_R=400V	-	10	-	uJ	Figure 7

Thermal Characteristics

Symbol	Parameter	Value		Unit	Note
		Typ.	Max.		
$R_{th(j-c)}$	Thermal resistance (Junction to case)	0.60	-	℃/W	Figure 8

Electrical Characteristic Curves

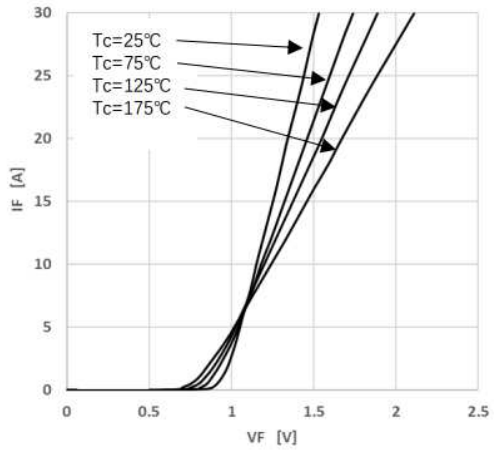


Figure 1 Forward Characteristics

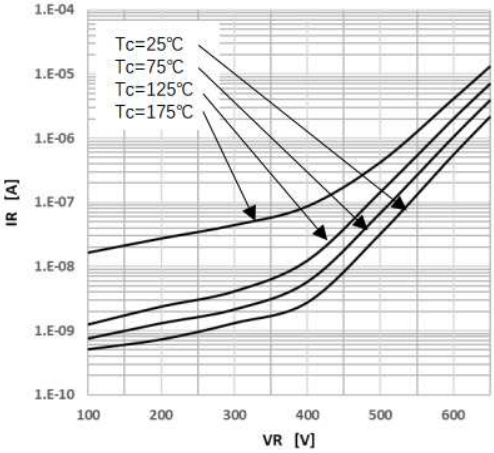


Figure 2 Reverse Characteristics

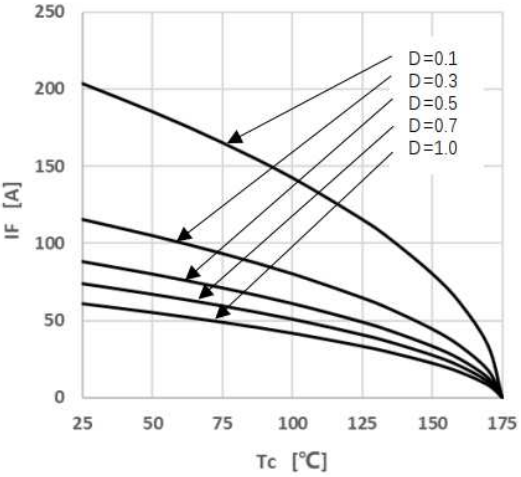


Figure 3 Peak Forward Current Derating

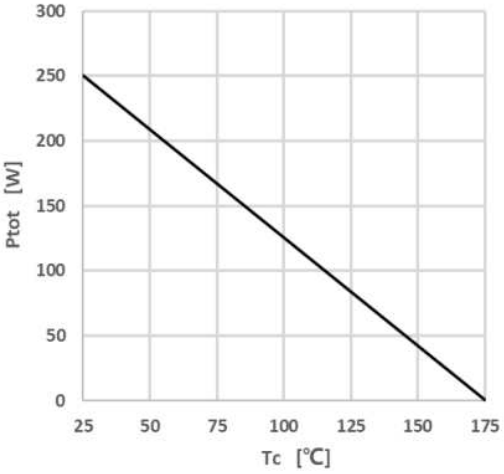


Figure 4 Power Dissipation

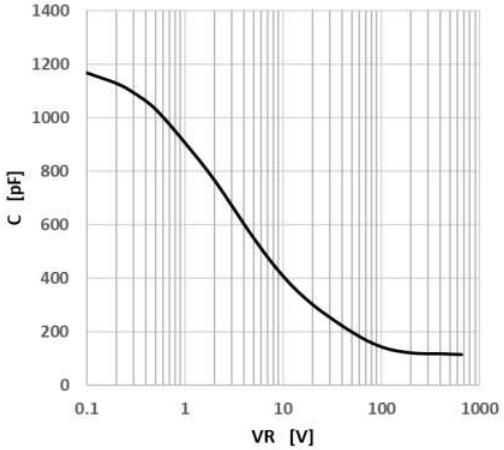


Figure 5 Capacitance vs. Reverse Voltage

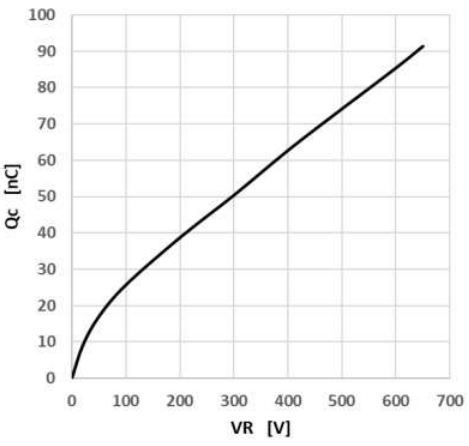


Figure 6 Capacitance Charge vs. Reverse Voltage

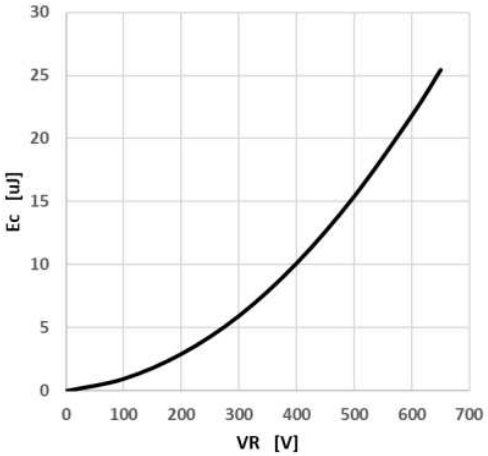


Figure 7 Capacitance Stored Energy

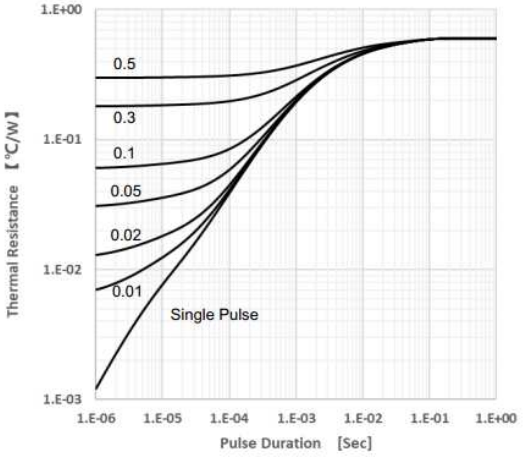
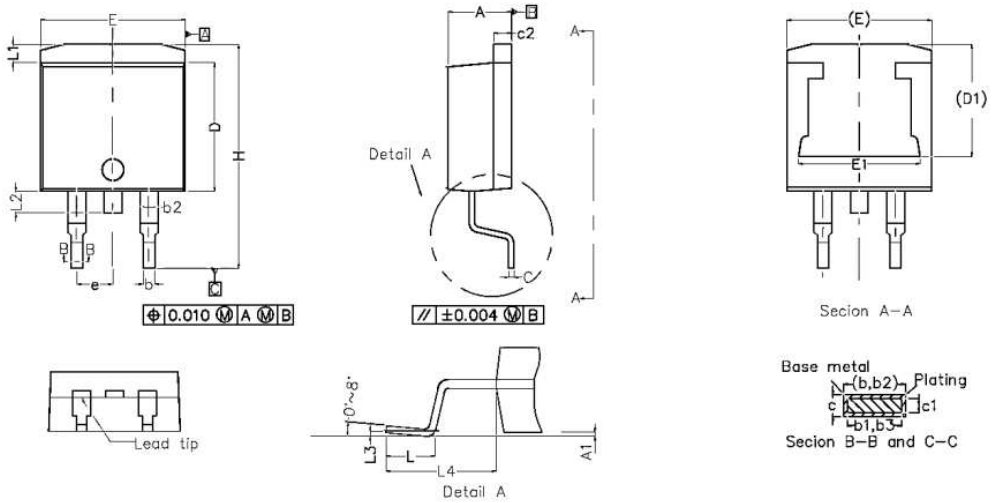


Figure 8 Transient Thermal Impedance

TO-263 (D2PAK) Package Dimensions：(Unit : mm)



SYMBOL	MILLIMETERS			NOTES
	Normal	MIN.	MAX.	
A	4.55	4.35	4.75	
A1	0.12	0	0.25	
b	0.85	0.69	0.94	
b1	0.83	0.69	0.88	
b2	1.33	1.20	1.45	
b3	1.33	1.20	1.45	
c	0.50	0.38	0.53	
c1	0.48	0.38	0.56	
c2	1.27	1.14	1.40	
D	8.75	8.51	9.02	

SYMBOL	MILLIMETERS			NOTES
	Normal	MIN.	MAX.	
D1	7.75	7.50	8.0	
E	10.18	10.0	10.4	
E1	8.57	8.25	8.80	
e	2.54	2.54BSC		
H	15.20	15.00	15.60	
L	2.64	2.50	2.79	
L1	1.35	1.0	1.65	
L2	1.51	1.27	1.78	
L3	0.25	0.25BSC		
L4	5.03	4.78	5.28	

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