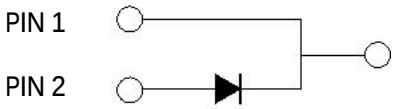
FXCR06S65D

Silicon Carbide Schottky Diode



Maximum Ratings (T_c= 25°C unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
V_{RRM}	Repetitive Peak Reverse Voltage	650	V		
V_{RSM}	Surge Peak Reverse Voltage	650	V		
V_{DC}	DC Blocking Voltage	650	V		
I_F	Continuous Forward Current	20 10 6	A	T_C=25°C T_C=125°C T_C=160°C	Fig. 7
I_{FRM}	Repetitive Peak Forward Surge Current	56	A	T_C=25°C, t_P=10 ms, Half Sine Wave, D=0.3	
I_{FSM}	Non-Repetitive Peak Forward Surge Current	72	A	T_C=25°C, t_P=10ms, Half Sine Wave, D=0.3	
$I_{F,Max}$	Non-Repetitive Peak Forward Surge Current	250	A	T_C=25°C, t_P= 10 µs, Pulse	
P_{tot}	Power Dissipation	117 51	W	T_C=25°C T_C=110°C	Fig. 6
T_J , T_{stg}	Operating Junction and Storage Temperature	-55 to +175	°C		

Electrical Characteristics

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
V_F	Forward Voltage	1.35 1.7	1.5 2.0	V	I_F = 6 A T_J=25°C I_F = 6 A T_J=175°C	Fig. 1
I_R	Reverse Current	12 26	60 400	µA	V_R = 650 V T_J=25°C V_R = 650 V T_J=175°C	Fig. 2
Q_C	Total Capacitive Charge	25		nC	V_R = 400 V, I_F = 6 A T_J = 25°C $Q_C = \int C\ (V)dV$	Fig. 4
C	Total Capacitance	379 40 32		pF	V_R = 0 V, T_J = 25°C, f = 1 MHz V_R = 200 V, T_J = 25°C, f = 1 MHz V_R = 400 V, T_J = 25°C, f = 1 MHz	Fig. 3
E_C	Capacitance Stored Energy	4.9		µJ	V_R = 400 V	Fig. 5

Thermal Characteristics

Symbol	Parameter	Typ.	Unit	Note
$R_{\theta JC}$	Thermal Resistance from Junction to Case	1.28	°C/W	Fig. 8

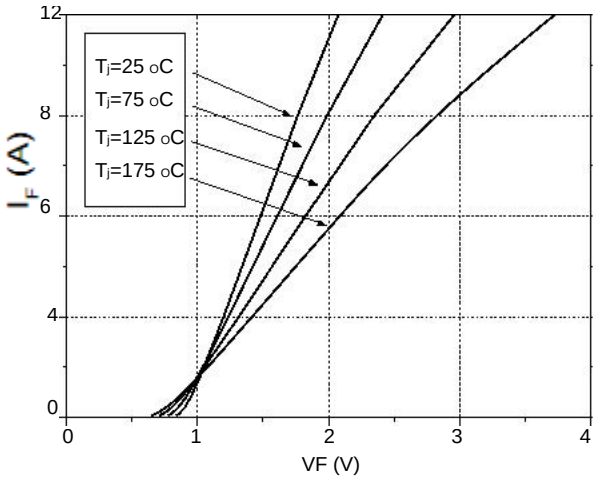


Figure 1.Forward Characteristics

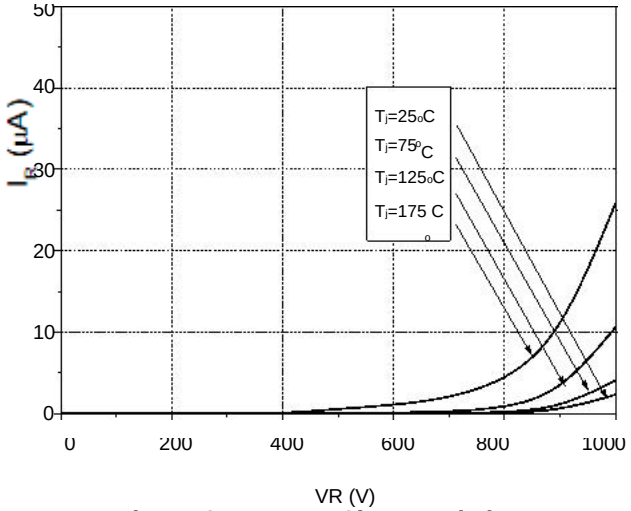


Figure 2. Reverse Characteristics

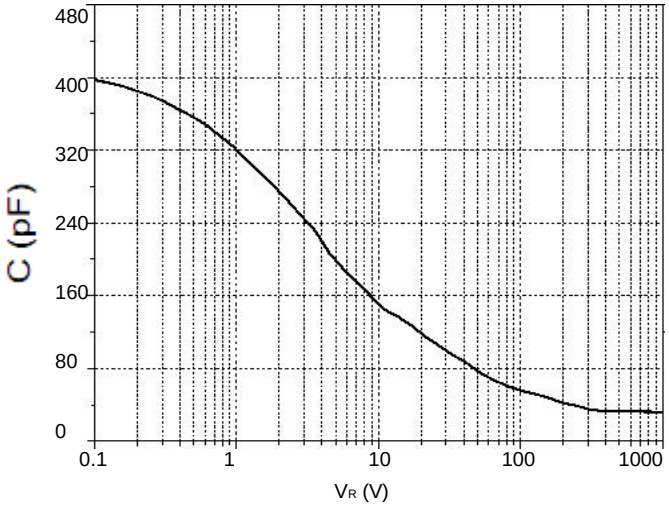


Figure 3.Capacitance vs. Reverse Voltage

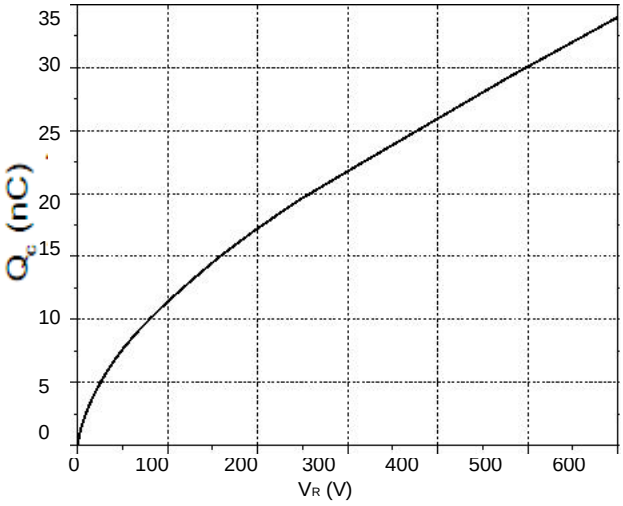


Figure 4. Total Capacitance Charge vs. Reverse Voltage

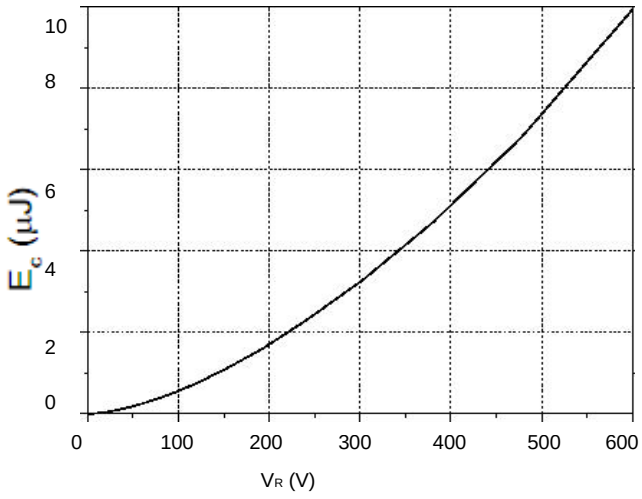


Figure 5. Capacitance Stored Energy

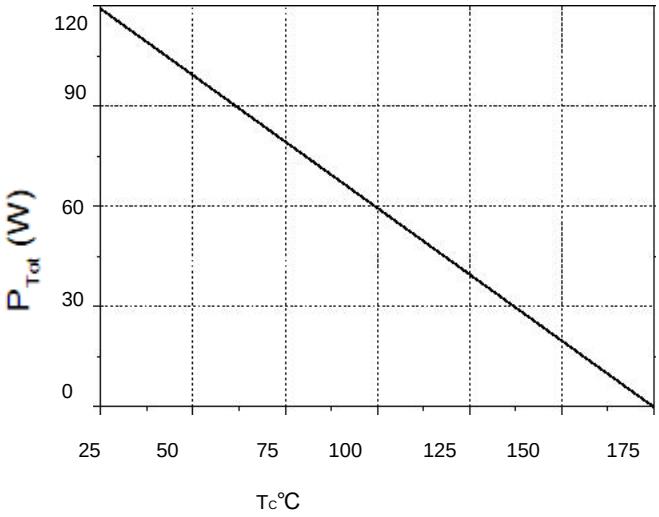


Figure 6. Power Derating

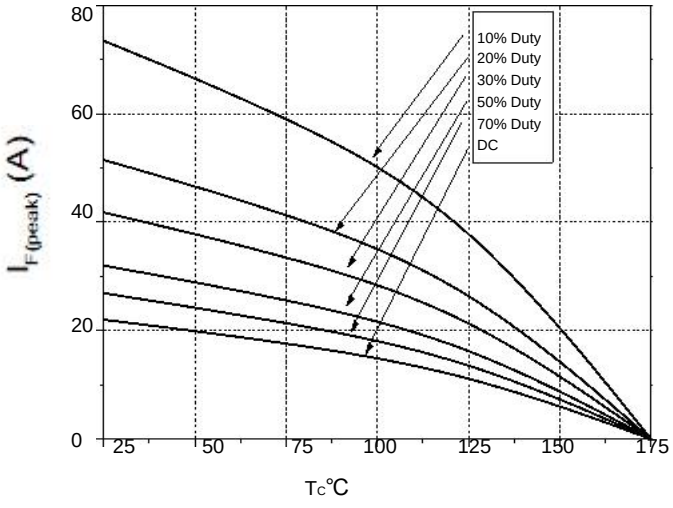


Figure 7. Current Derating

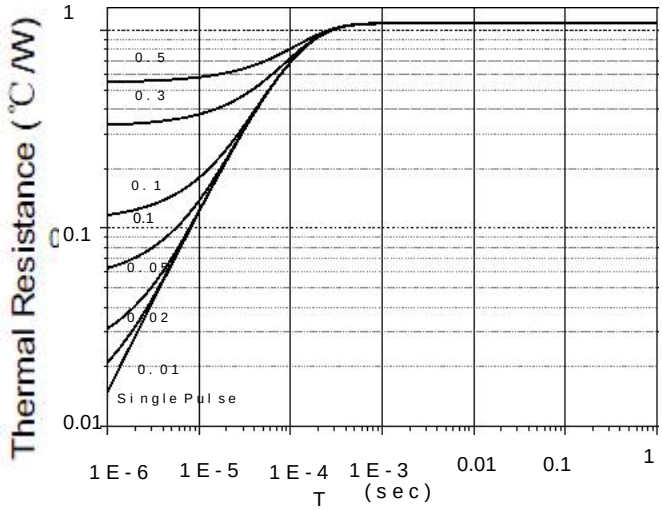
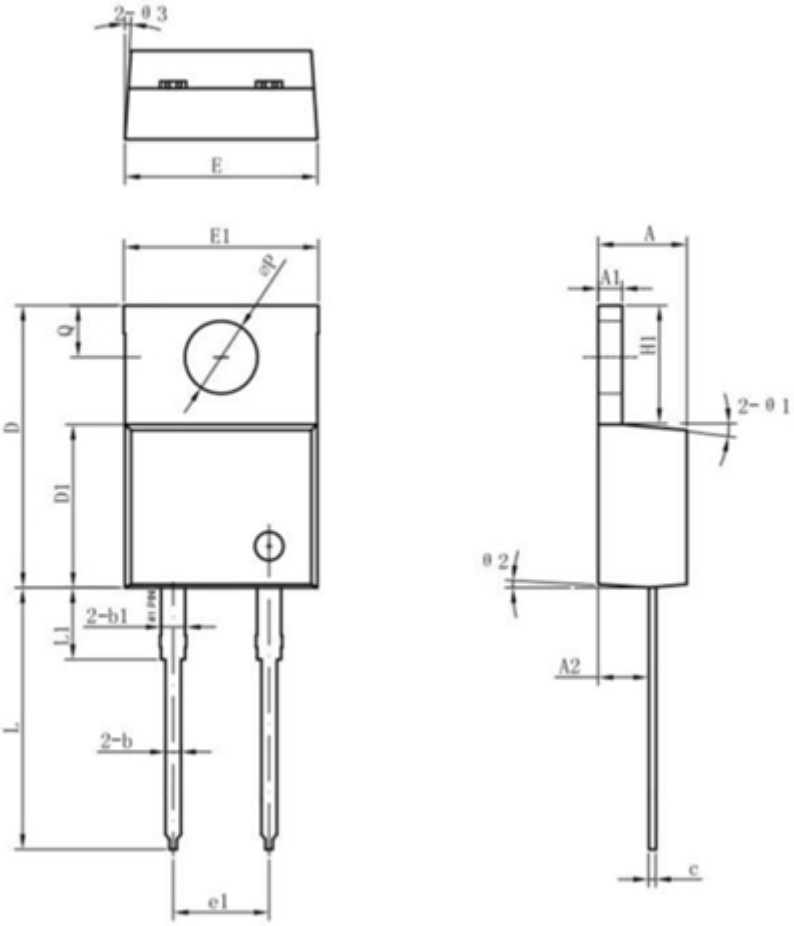


Figure 8. Transient Thermal Impendance

Package



符号	机械尺寸/mm		
	最小值	典型值	最大值
A	4.55	4.70	4.85
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.64	14.94	15.24
D1	8.55	8.70	8.85
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1		5.08	
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1		3.80	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
θ1		5°	
θ2		4°	
θ3		4°	