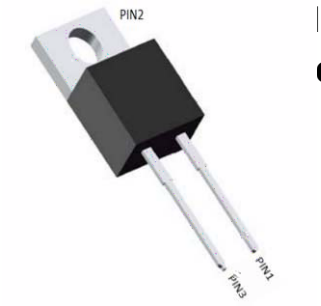
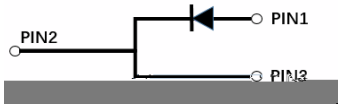
Silicon Carbide Scho

- ŏ Maximum working temperature at 1 7 5 Á C
- r de v ices and zero reverse reco v ery current
- or w ard co v eery current
- ally no switching losses
- ŏ Reduction o f heat sink re q uirements
- igh - f re q uency operation
- eduction o f EMI

V_{RRM}	1200V
$I_{F\ 135°C}$	20A
Q_C	91nC





Typical Applications

Typical applications are in power factor correction(PFC), solar inverter, uninterruptible power supply, motor drives, photovoltaic inverter, electric car and charger.

	6 < 0 % 2 /	8 1 , 7	9 $ / 8 (
Device marking code			D112015PQG3
Reverse voltage (Repetitive peak) @ T_j=25°C	V_{RRM}	V	1200
Reverse voltage (Surge peak) @ T_j=25°C	V_{RSM}	V	1200
Reverse voltage (DC) @ T_j=25°C	V_{DC}	V	1200
Continuous forward current @ T_C=25°C	I_F	A	44
Continuous forward current @ T_C=135°C			20
Continuous forward current @ T_C=150°C			15
Non-repetitive peak forward surge current @ T_C=25°C, tp=10ms, Half Sine Wave	I_{FSM}	A	160
Power Dissipation@ T_C=25°C	P_{TOT}	W	170
Power Dissipation@ T_C=110°C			73
i^2t Value@ T_C=25°C ,tp=10ms	$\int i^2dt$	A^2S	128
Operating junction and Storage temperature range	T_j ,T_{stg}	°C	-55 to +17. a W

■Electrical Characteristics

PARAMTETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	I_F=15A, T_j=25°C	1.35	1.55
			I_F=15A, T_j=175°C	1.85	-
Reverse leakage current	I_R	μA	V_R=1200V, T_j=25°C	3	20
			V_R=1200V, T_j=175°C	19	-
Total capacitive charge	Q_C	nC	V_R=800V, T_j=25°C , $Q_C=\int_0^{VR}C(V)dV$	91	-
Total capacitance	C	pF	V_R=0V, f=1MHZ	1280	-
			V_R=400V, f=1MHZ	87	-
			V_R=800V, f=1MHZ	64	-
Capacitance Stored Energy	E_C	μJ	V_R=800V	23	-

■Thermal Characteristics T_a=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	VALUE
Thermal resistance	$R_{\theta J-C}$	°C /W	0.88

■Typical Characteristics

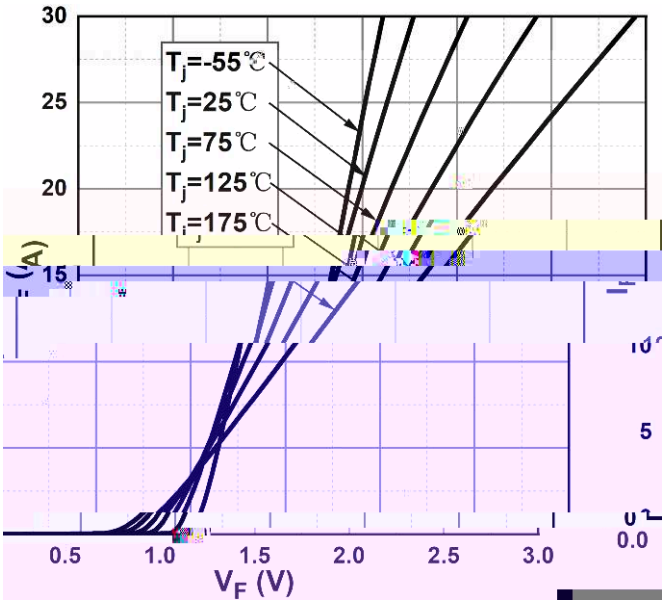


Figure 1. Forward Characteristics

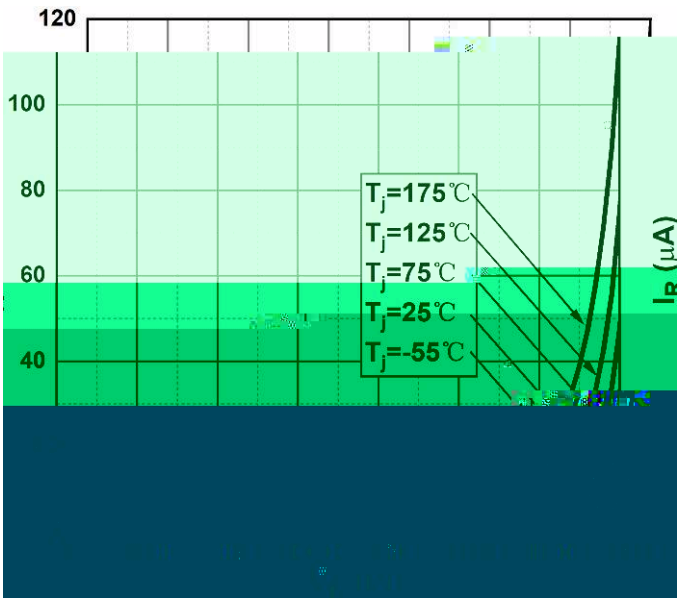


Figure 2. Reverse Characteristics

Figure 3. Capacitance vs. Reverse Voltage

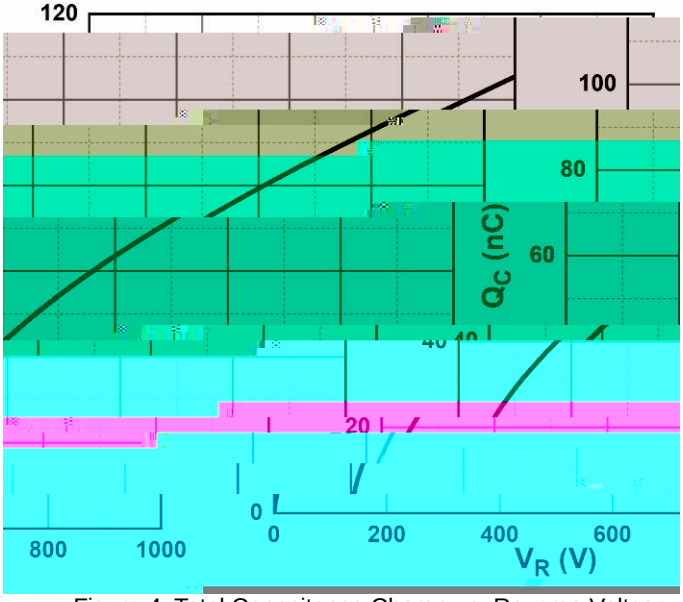


Figure 4. Total Capacitance Charge vs. Reverse Voltage

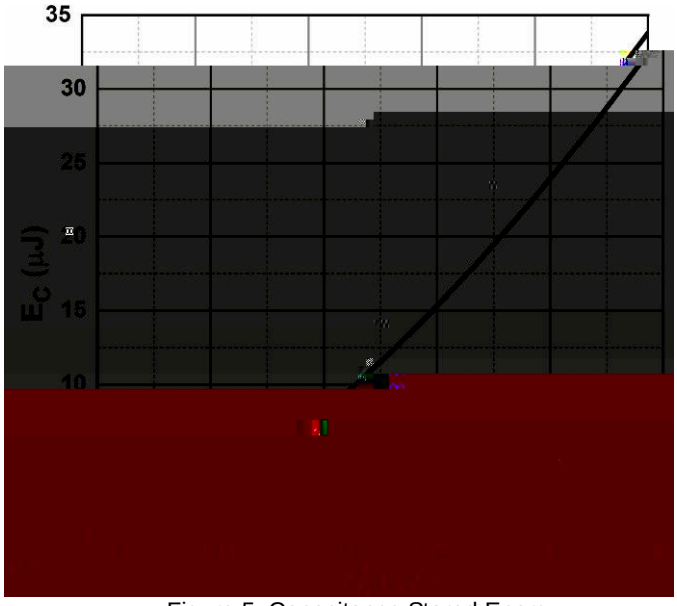


Figure 5. Capacitance Stored Energy

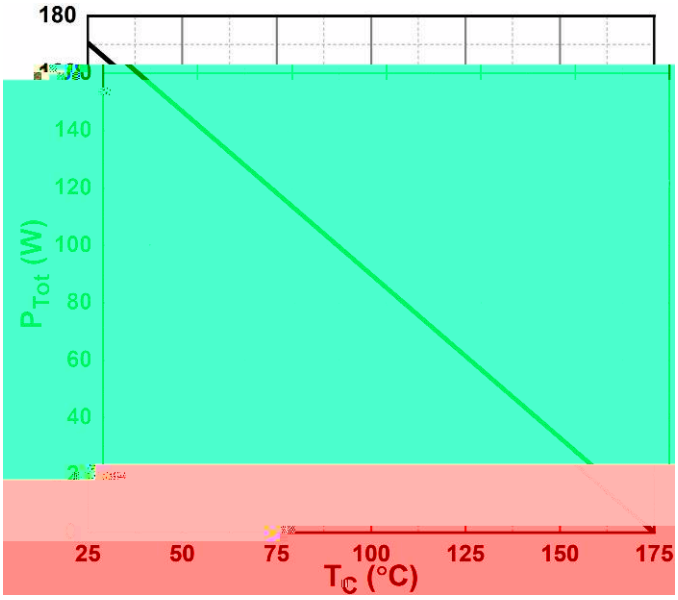


Figure 6. Power Derating

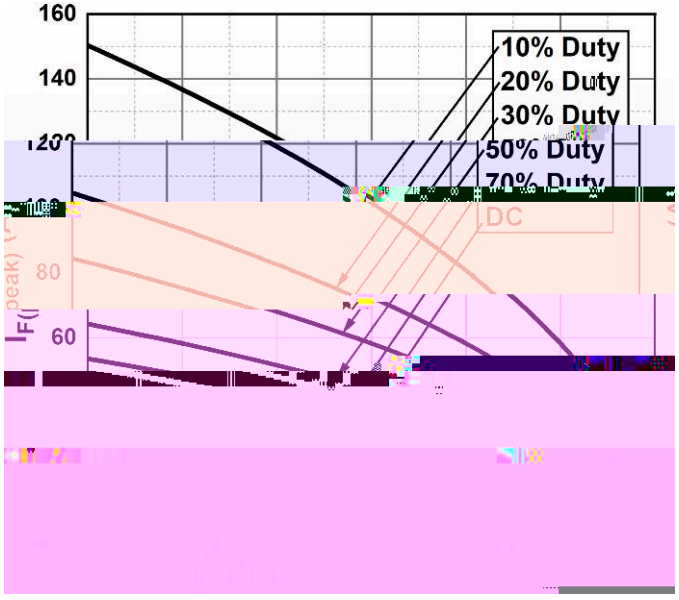


Figure 7. Current Derating

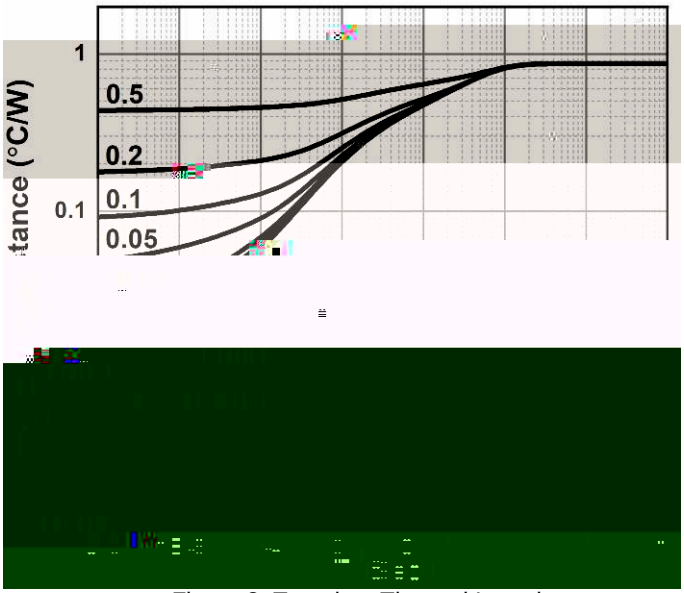
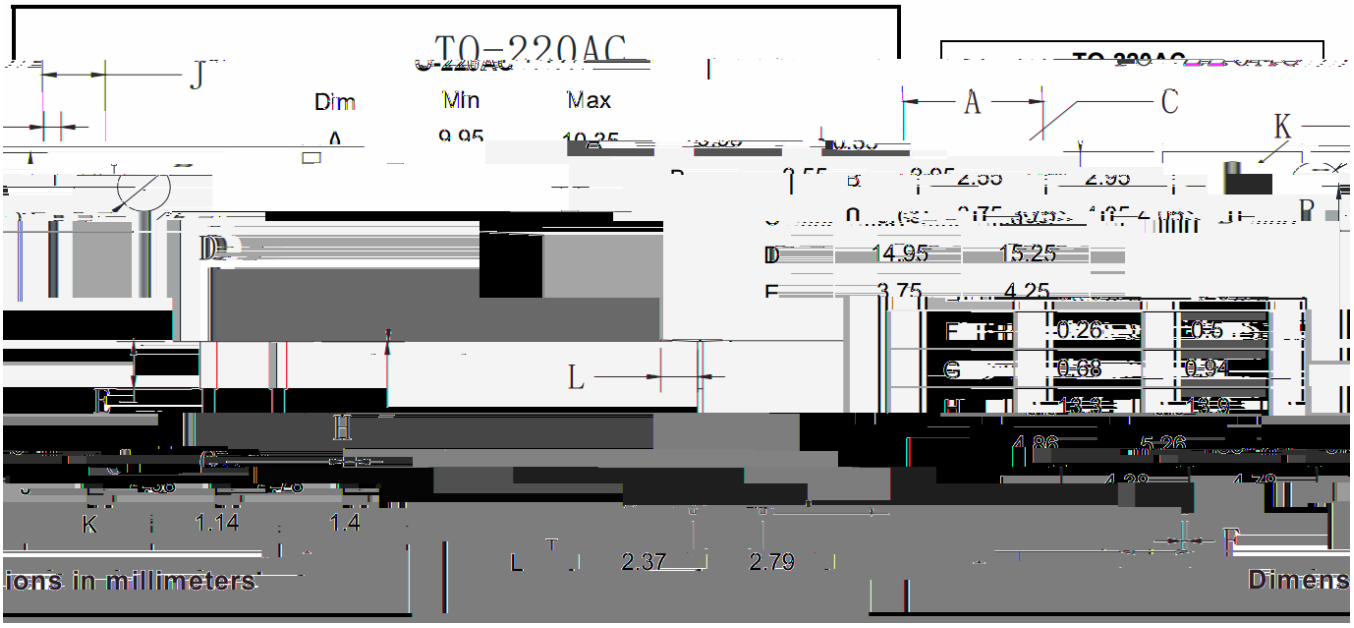


Figure 8. Transient Thermal Impedance

■Outline Dimensions



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