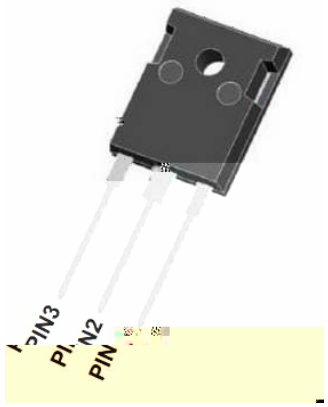
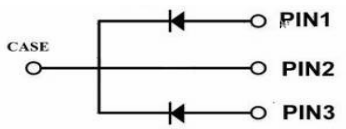
YJD112030NCTQG3Q

RoHS COMPLIANT

V_{RRM}	1200V
$I_{F\ (135°C)}$	40A[2]
Q_C	182nC[2]





Typical Applications

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

Mechanical Data

- **Package**: TO-247AB
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads
- **Polarity**: As marked

■Maximum Ratings (T_C=25 Unless otherwise specified)

PARAMTETER	SYMBOL	UNIT	VALUE
Device marking code			D112030NCTQG3
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	43/86
Continuous forward current @ T_C=135°C			20/40
Continuous forward current @ T_C=150°C =110°C			71/141
i^2t Value@ T_C=25°C ,tp=10ms	$\int i^2dt$	A^2S	128[1]

Operating junc) Ḥ

[1] Per Leg, [2] Per Device

■Electrical Characteristics (Per Leg)

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 (Ta=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Thermal resistance	$R_{\theta J-C}$	°C /W	0.91(1) 0.46(2)

(1) Per Leg, (2) Per Device

■Typical Characteristics (Per Leg)

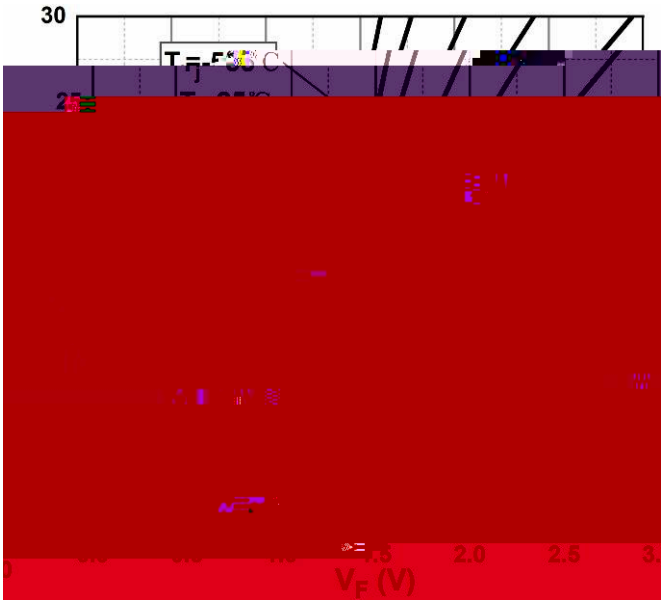


Figure 1. Forward Characteristics

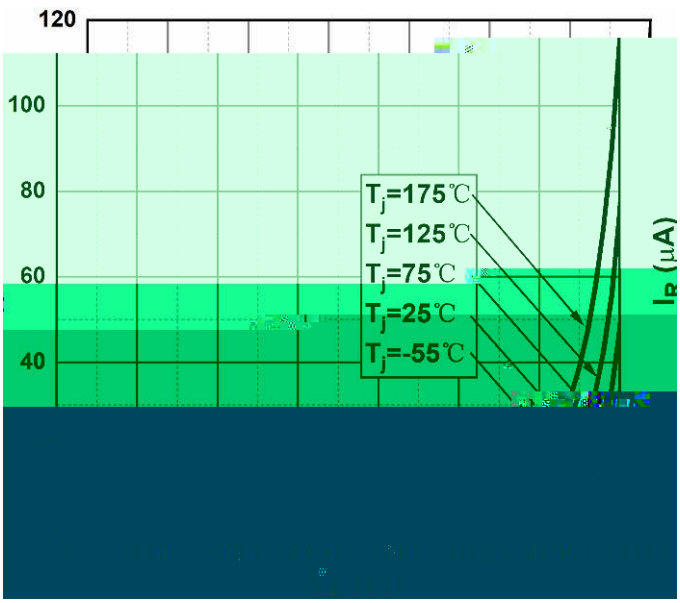


Figure 2. Reverse Characteristics

Figure 3. Capacitance vs. Reverse Voltage

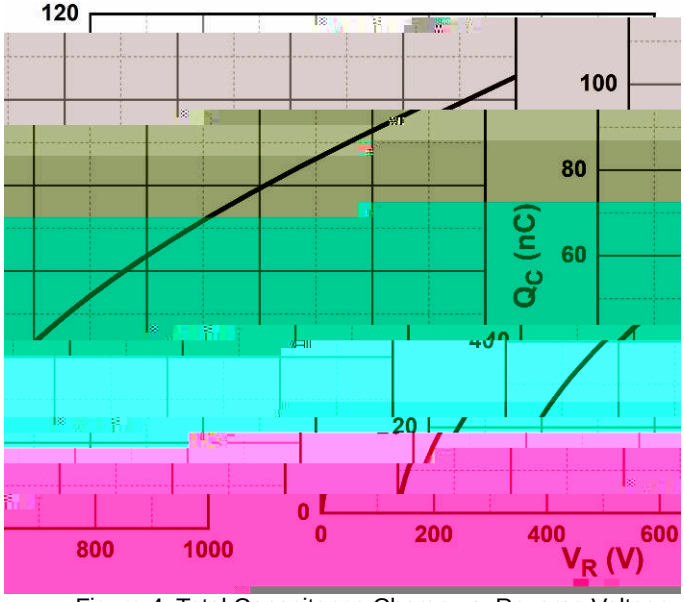


Figure 4. Total Capacitance Charge vs. Reverse Voltage

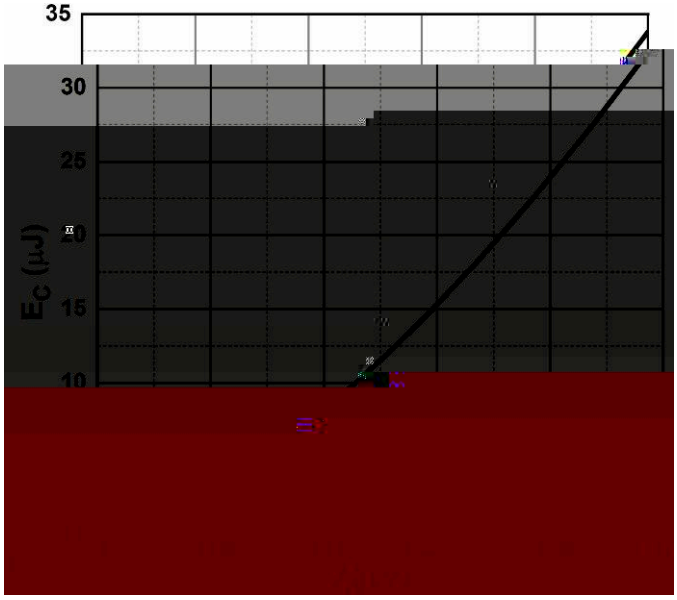


Figure 5. Capacitance Stored Energy

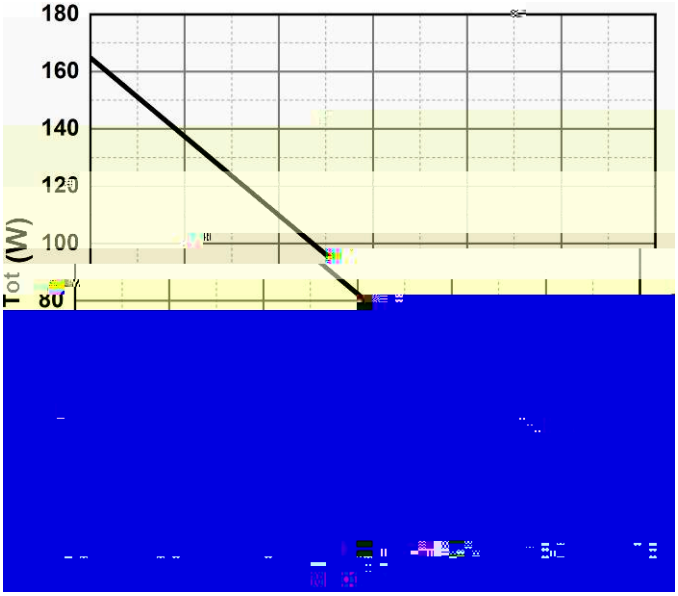


Figure 6. Power Derating

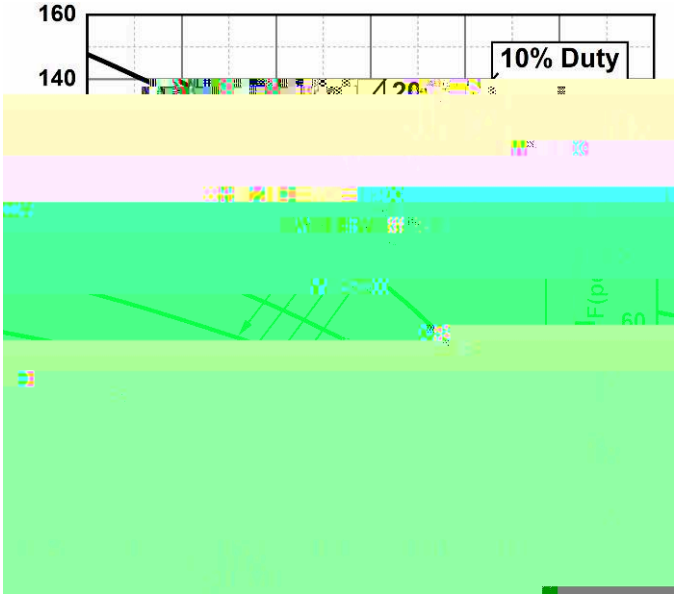


Figure 7. Current Derating

■Typical Characteristics (Device)

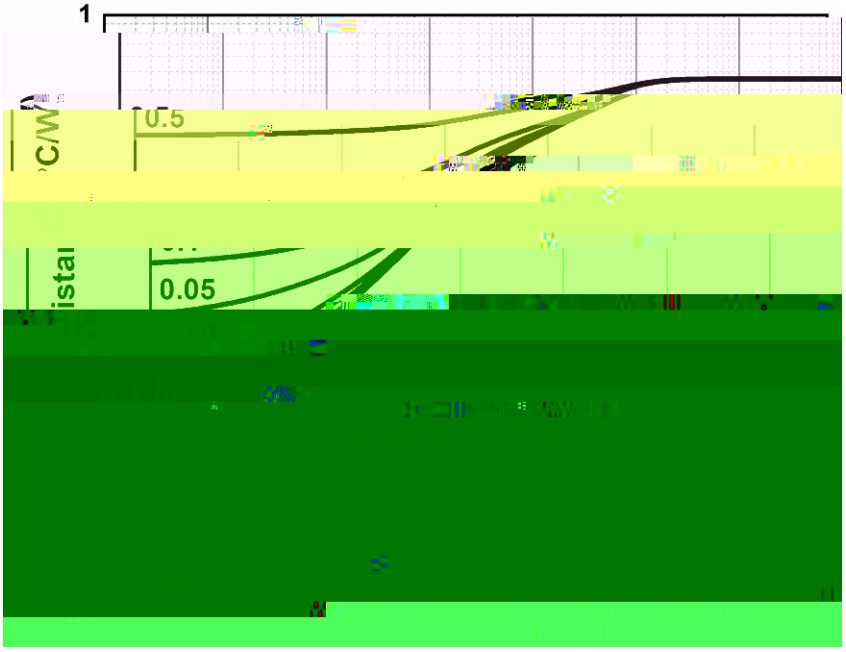


Figure 8. Transient Thermal Impedance