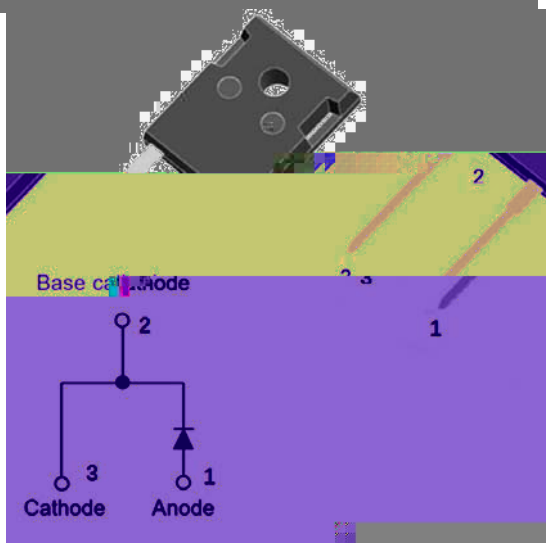
RoHS
COMPLIANT

| | |
|---|---|
| $V_{RRM}$ | 1200V |
| $I_{F\ 135°C}$ | 62A |
| $Q_C$ | 222nC |




- Positive temperature coefficient
- Temperature-independent switching
- Maximum working temperature at 175 °C
- Unipolar devices and zero reverse recovery current
- Zero forward recovery current
- Essentially no switching losses
- Reduction of heat sink requirements
- High-frequency operation
- Reduction of EMI

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

- : TO-247AC
- : Tin plated leads
- : As marked

■ ($T_C$=25 Unless otherwise specified

| | | | |
|---|---|---|---|
| Device marking code | | | D112040NGG2 |
| 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 | 133 |
| Continuous forward current @ $T_c$=135°C | | | 62 |
| Continuous forward current @ $T_c$=155°C | | | 40 |
| Non-repetitive peak forward surge current @ $T_c$=25°C, tp=10ms, Half Sine Wave | $I_{FSM}$ | A | 300 |
| Power Dissipation@ $T_c$=25°C | $P_{TOT}$ | W | 573 |
| Power Dissipation@ $T_c$=110°C | | | 246 |
| $i^2t$ Value@ Tc=25°C ,tp=10ms | $i^2dt$ | $A^2S$ | 450 |
| Operating junction and Storage temperature range | $T_j$ , $T_{stg}$ | °C | -55 to +175 |

■

| | | | | | |
|---|---|---|---|---|---|
| Forward voltage drop | $V_F$ | V | $I_F$=40A, $T_j$=25°C | 1.38 | 1.55 |
| | | | $I_F$=40A, $T_j$=175°C | 1.92 | 3.0 |
| Reverse leakage current | $I_R$ | μA | $V_R$=1200V, $T_j$=25°C | 1 | 25 |
| | | | $V_R$=1200V, $T_j$=175°C | 17 | - |
| Total capacitive charge | $Q_C$ | nC | $V_R$=800V, $T_j$=25°C , $QC=\int_0^{VR} C(V)dV$ | 222 | |
| Total capacitance | C | pF | $V_R$=0V, f=1MHZ | 2938 | - |
| | | | $V_R$=400V, f=1MHZ | 206 | - |
| | | | $V_R$=800V, f=1MHZ | 157 | - |
| Capacitance Stored Energy | $E_C$ | μJ | $V_R$=800V | 57 | - |

■ $T_a$=25 Unless otherwise specified

| | | | |
|---|---|---|---|
| Thermal resistance | $R_{\theta J-C}$ | °C /W | 0.26 |

■ (Typical)


Figure 1. Forward Characteristics

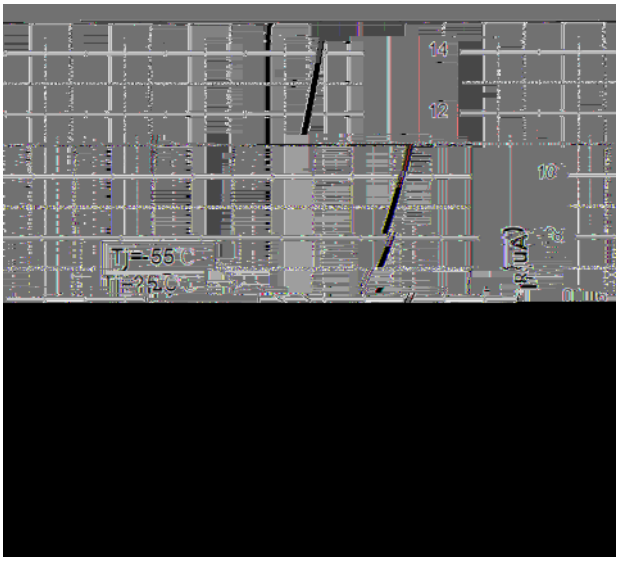



Figure2. Reverse Characteristic

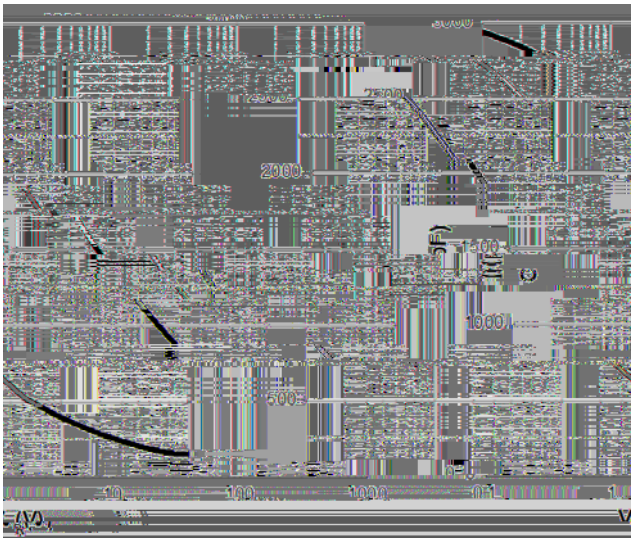


Figure 3. Capacitance vs. Reverse Voltage

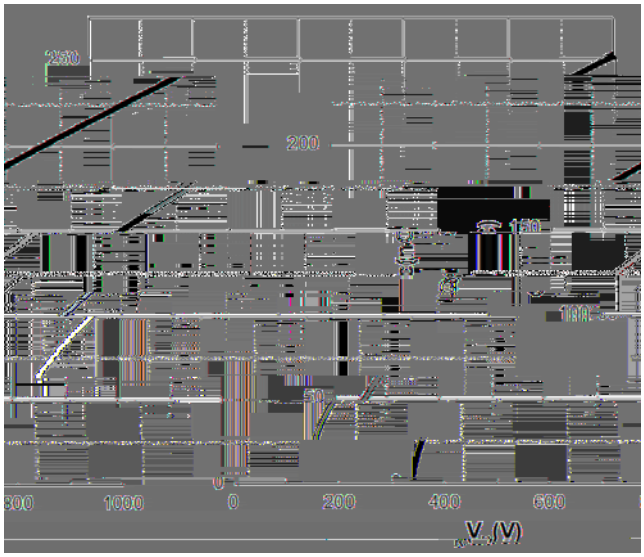


Figure 4. Total Capacitance Charge vs. Reverse Voltage

Figure 5. Capacitance Stored Energy

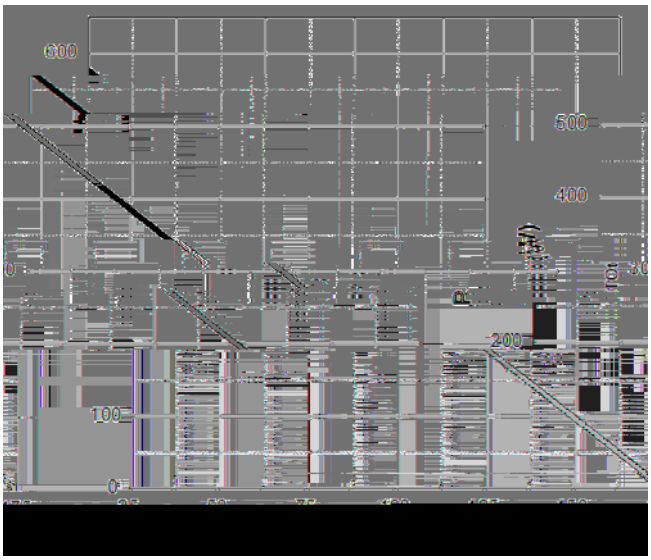


Figure 6. Power Derating

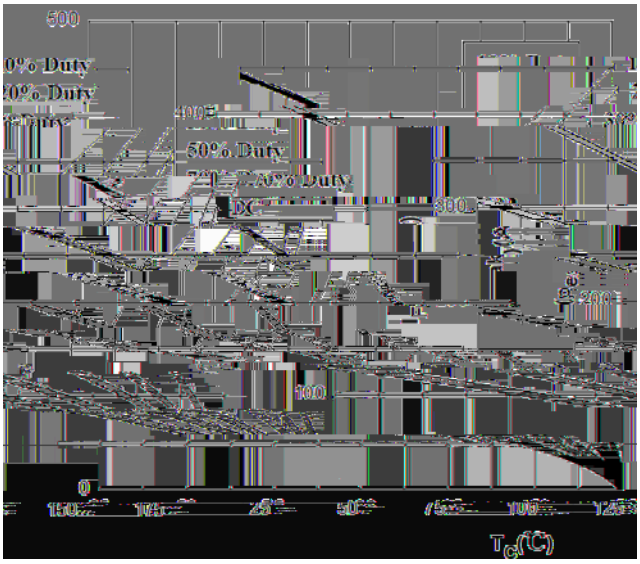


Figure 7. Current Derating

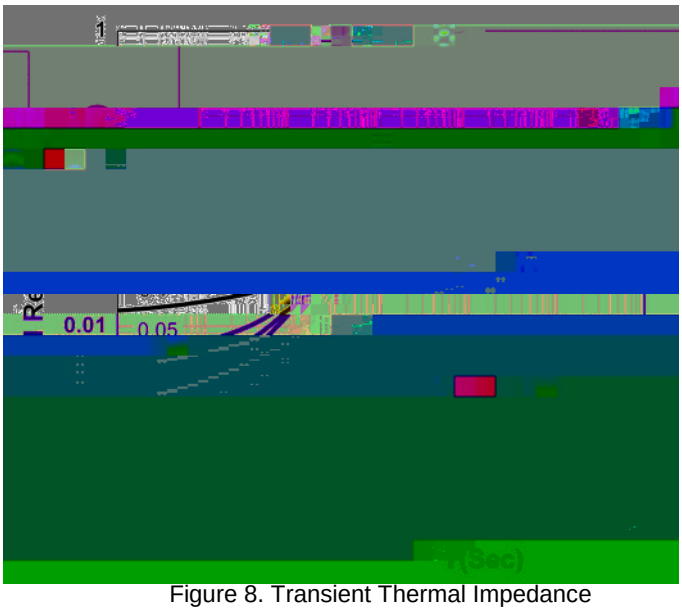


Figure 8. Transient Thermal Impedance

■

| | | |
|---|---|---|
| Dim | Min | Max |
| A | 4.80 | 5.20 |
| A1 | 2.21 | 2.61 |
| A2 | 1.85 | 2.15 |
| b | 1.11 | 1.36 |
| b2 | 1.91 | 2.21 |
| c | 0.51 | 0.75 |
| D | 20.70 | 21.30 |