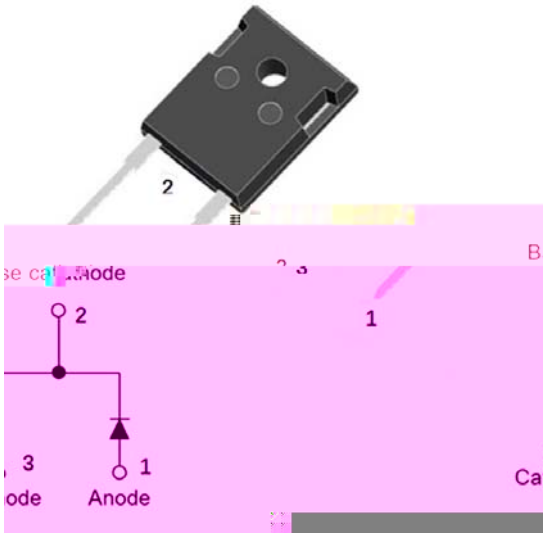
RoHS
COMPLIANT

| | |
|---|---|
| $V_{RRM}$ | 650V |
| $I_{F\ 135°C}$ | 56A |
| $Q_C$ | 135nC |




- Positive temperature coefficient
- Temperature-independent switching
- Maximum working temperature at 175 °C
- Unipolar devices and zero reverse recovery current
- Zero forward recovery voltage
- 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
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- : Tin plated leads
- : As marked

■ ($T_C$=25 Unless otherwise specified)

| | | | |
|---|---|---|---|
| Device marking code | | | D106550NQG3 |
| Reverse voltage (repetitive peak) @ $T_j$=25°C | $V_{RRM}$ | V | 650 |
| Reverse voltage (Surge Peak) @ $T_j$=25°C | $V_{RSM}$ | V | 650 |
| Reverse voltage (DC) @ $T_j$=25°C | $V_{DC}$ | V | 650 |
| Continuous forward current @ $T_c$=25°C | $I_F$ | A | 119 |
| Continuous forward current @ $T_c$=135°C | | | 56 |
| Continuous forward current @ $T_c$=143°C | | | 50 |
| Non-repetitive peak forward surge current @ $T_c$=25°C, tp=10ms, Half Sine Wave | $I_{FSM}$ | A | 380 |
| Power Dissipation@ $T_c$=25°C | $P_{TOT}$ | W | 454 |
| Power Dissipation@ $T_c$=110°C | | | 196 |
| $i^2t$ Value@ Tc=25°C ,tp=10ms | $\int i^2dt$ | $A^2S$ | 722 |
| Operating junction and Storage temperature range | $T_j$ ,$T_{stg}$ | °C | -55 to +175 |

■ (Per Leg)

| | | | | | |
|---|---|---|---|---|---|
| Forward voltage drop | $V_F$ | V | $I_F$=50A, $T_j$=25°C | 1.45 | 1.6 |
| | | | $I_F$=50A, $T_j$=175°C | 1.9 | - |
| Reverse leakage current | $I_R$ | μA | $V_R$=650V, $T_j$=25°C | 3 | 25 |
| | | | $V_R$=650V, $T_j$=175°C | 20 | - |
| Total capacitive charge | $Q_C$ | nC | $V_R$=400V, $T_j$=25°C , $QC=\int_0^{VR} C(V)dV$ | 135.3 | - |
| Total capacitance | C | pF | $V_R$=0V, f=1MHZ | 2453 | - |
| | | | $V_R$=200V, f=1MHZ | 247 | - |
| | | | $V_R$=400V, f=1MHZ | 243 | - |
| Capacitance Stored Energy | $E_C$ | μJ | $V_R$=400V | 16.5 | - |

■ ($T_a$=25 Unless otherwise specified)

| | | | |
|---|---|---|---|
| Thermal resistance | $R_{\theta J-C}$ | °C /W | 0.33 |

■

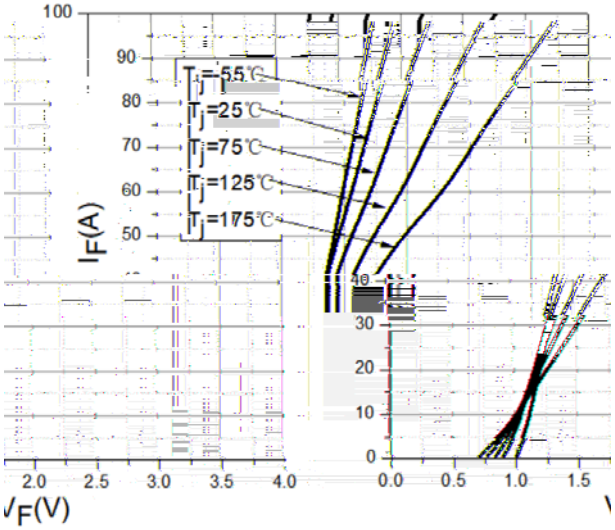



Figure 1. Forward Characteristics

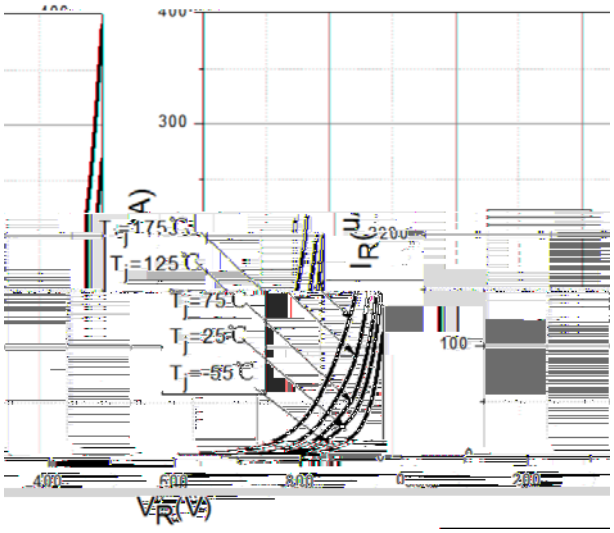
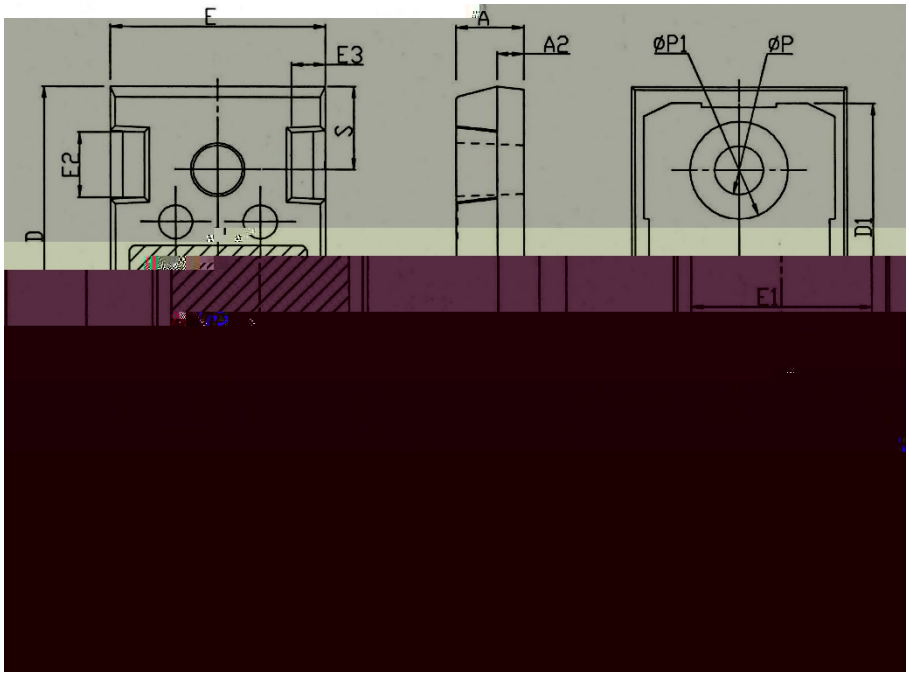



Figure2. Reverse Characteristic

■

## TO-247AC




| | | |
|---|---|---|
| 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 |
| D1 | 16.25 | 16.85 |
| E | 15.50 | 16.10 |
| E1 | 13.00 | 13.60 |
| E2 | 4.80 | 5.20 |
| E3 | 2.30 | 2.70 |
| e | 10.88BSC | |
| L | 19.62 | 20.22 |
| L1 | - | 4.30 |
| φ P | 3.40 | 3.80 |
| φ P1 | - | 7.30 |
| S | 6.15BSC | |

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