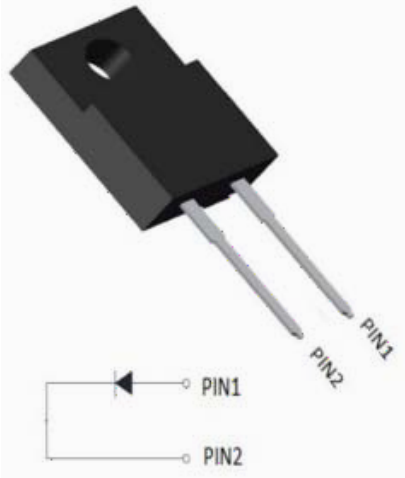
RoHS
COMPLIANT

| | |
|---|---|
| $V_{RRM}$ | 650V |
| $I_{F\ 66°C}$ | 20A |
| $Q_C$ | 62nC |




- 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.

- : ITO-220AC
  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 | | | D106520FQG2 |
| 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 | 24 |
| Continuous forward current @ $T_c$=66°C | | | 20 |
| 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 | 47 |
| Power Dissipation@ $T_c$=110°C | | | 20 |
| $i^2t$ Value@ Tc=25°C ,tp=10ms | $\int i^2dt$ | $A^2S$ | 128 |
| Operating junction and Storage temperature range | $T_j$ ,$T_{stg}$ | °C | -55 to +175 |

■

| | | | | | |
|---|---|---|---|---|---|
| Forward voltage drop | $V_F$ | V | $I_F$=20A, $T_j$=25°C | 1.35 | 1.55 |
| | | | $I_F$=20A, $T_j$=175°C | 1.75 | - |
| Reverse leakage current | $I_R$ | μA | $V_R$=650V, $T_j$=25°C | 1 | 25 |
| | | | $V_R$=650V, $T_j$=175°C | 5 | - |
| Total capacitive charge | $Q_C$ | nC | $V_R$=400V, $T_j$=25°C , $QC=\int_0^{VR} C(V)dV$ | 62 | - |
| Total capacitance | C | pF | $V_R$=0V, f=1MHZ | 1157 | - |
| | | | $V_R$=200V, f=1MHZ | 115.6 | - |
| | | | $V_R$=400V, f=1MHZ | 107 | - |
| Capacitance Stored Energy | $E_C$ | μJ | $V_R$=400V | 7.8 | - |

■ ($T_a$=25 Unless otherwise specified)

| | | | |
|---|---|---|---|
| Thermal resistance | $R_{\theta J-C}$ | °C /W | 3.2 |

■

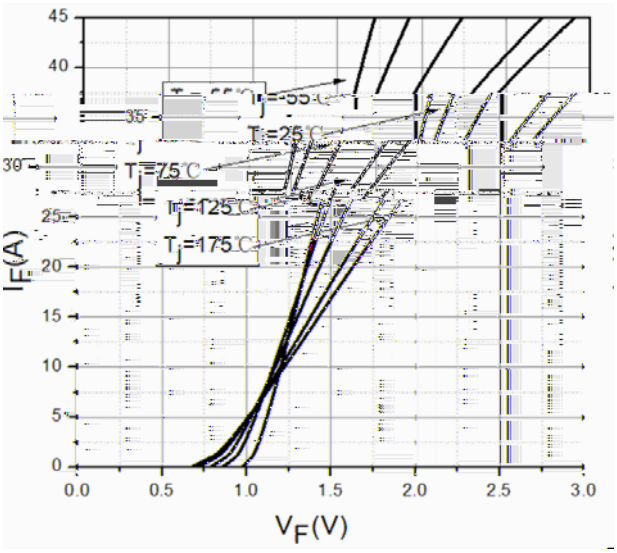



Figure 1. Forward Characteristics

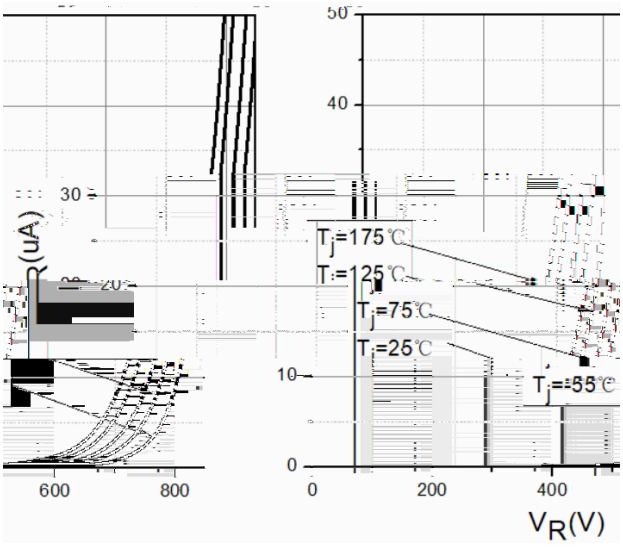



Figure2. Reverse Characteristic

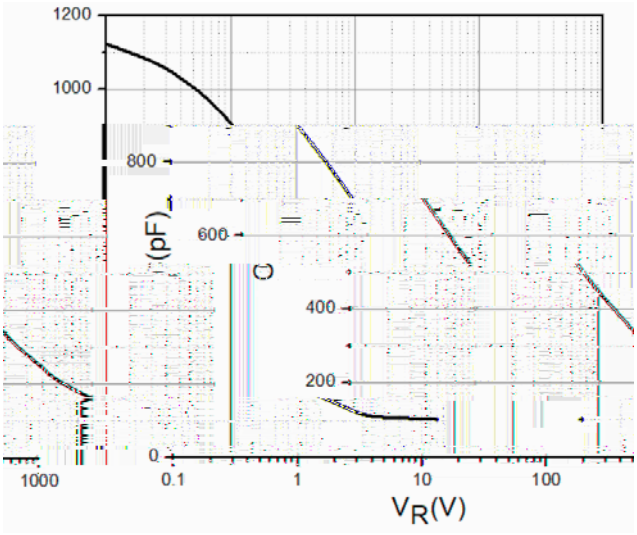



Figure 3. Capacitance vs. Reverse Voltage

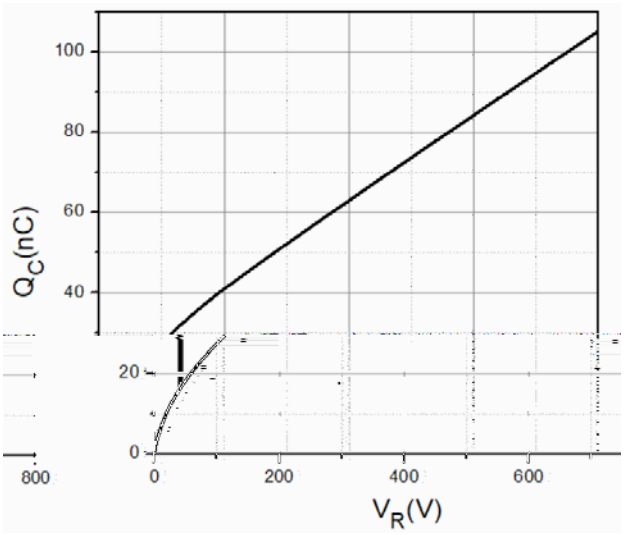



Figure 4. Total Capacitance Charge vs. Reverse Voltage

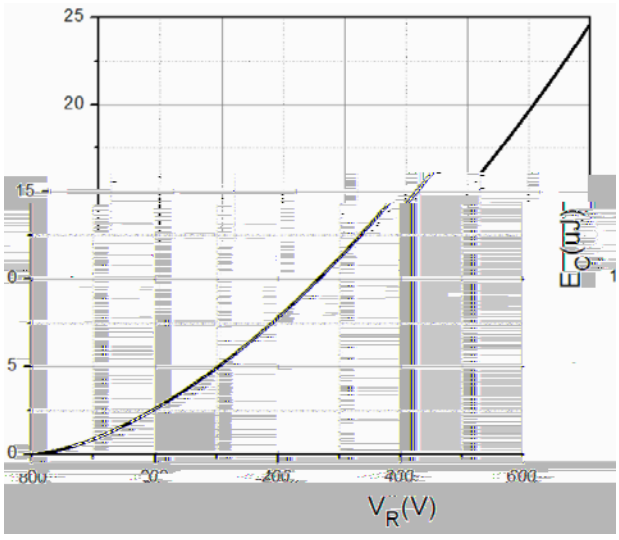



Figure 5. Capacitance Stored Energy

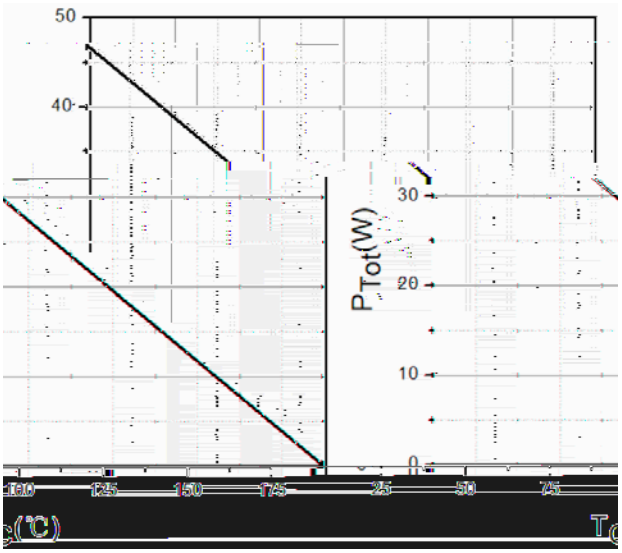



Figure 6. Power Derating

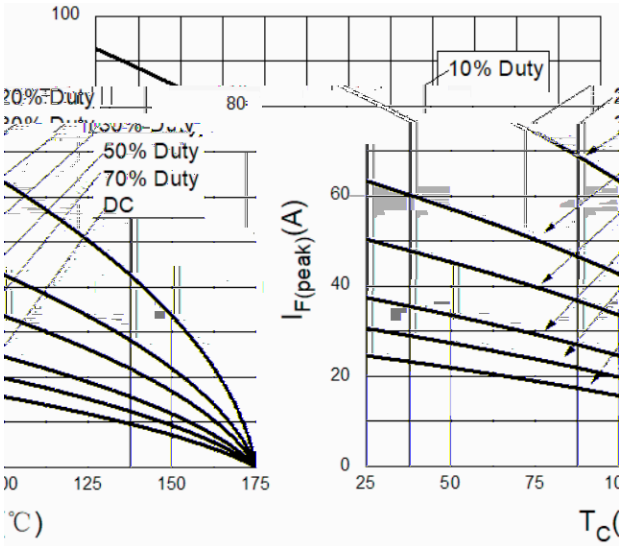



Figure 7. Current Derating

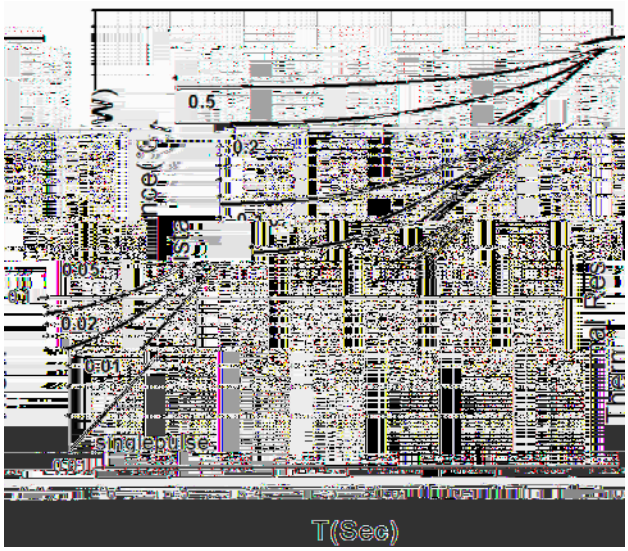
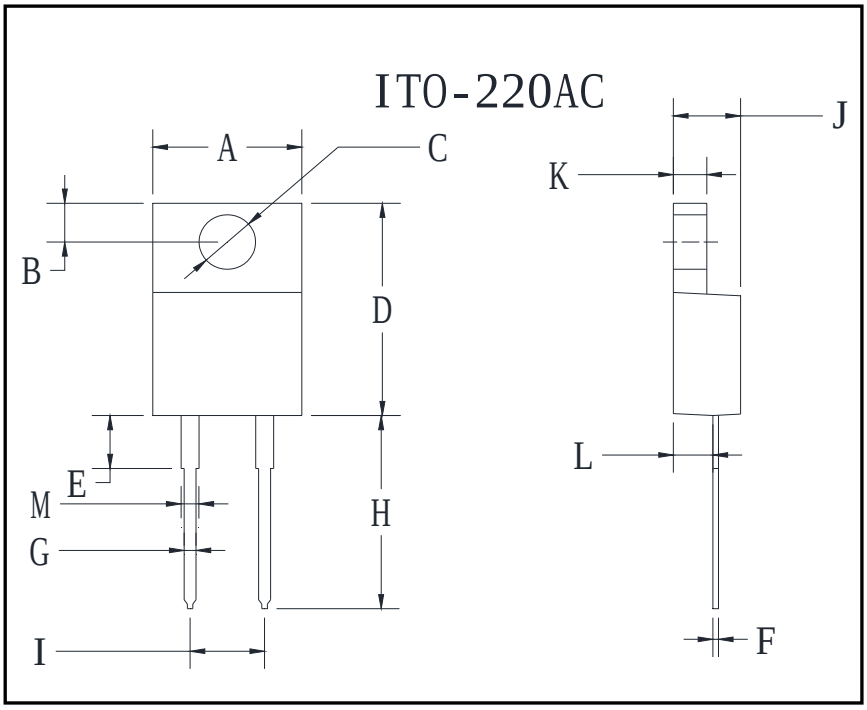



Figure 8. Transient Thermal Impedance

■




| Dim | Min | Max |
|---|---|---|
| A | 9.8 | 10.2 |
| B | 2.25 | 2.75 |
| C | 2.95 | 3.45 |
| D | 14.75 | 15.25 |
| E | 3.5 | 4.1 |
| F | 0.45 | 0.75 |
| G | 0.45 | 0.75 |
| H | 13.35 | 14.15 |
| I | 4.97 | 5.23 |
| J | 4.3 | 4.8 |
| K | 2.5 | 2.74 |
| L | 2.58 | 2.82 |
| M | 1.03 | 1.43 |

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