

Applications

- High speed switching and rectification
- Switching mode power supply

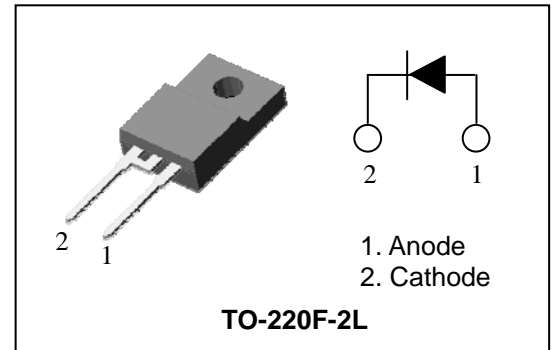
Features

- Ultra-fast reverse recovery time: $t_{rr}=30\text{ns}$ Max.
- Low V_{FM} : 1.9V & Low I_{RRM} : $10\ \mu\text{A}$ Max.
- Low switching loss

Ordering Information

| Type No. | Marking | Package Code |
|----------|----------|--------------|
| SF5A600H | SF5A600H | TO-220F-2L |

PIN Connection



Absolute Maximum Ratings

[Tc=25°C]

| Characteristic | Symbol | Rating | Unit |
|---|--------------|-----------|------|
| Repetitive peak reverse voltage | V_{RRM} | 600 | V |
| Average forward current (60Hz Half Sine Wave Resistive Load) | $I_{O(AV)}$ | 5 | A |
| R.M.S Forward Current | $I_{F(RMS)}$ | 7.85 | A |
| Peak forward surge current (Non-repetitive 60Hz sine wave) | I_{FSM} | 80 | A |
| Junction temperature | T_J | 150 | °C |
| Storage temperature range | T_{stg} | -45 ~ 150 | °C |

Electrical Characteristics

[Tc=25°C]

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---------------------------------|----------------|---|------|------|------|---------------|
| Peak forward voltage | $V_{FM}^{1)}$ | $I_F=5\text{A}$ | - | - | 1.9 | V |
| Repetitive peak reverse current | $I_{RRM}^{1)}$ | $T_C=25\text{°C}$ | - | - | 10 | μA |
| | | $T_C=125$ | | | 200 | |
| Reverse recovery time | t_{rr} | $I_F=1\text{A}, di/dt=-100\text{A}/\mu\text{s}$ | - | - | 30 | ns |
| Thermal resistance | R_{th} | Junction to case | - | - | 4.0 | °C/W |

1) Pulse test : $t_p \leq 380\ \mu\text{s}$, Duty cycle $\leq 2\%$

Electrical Characteristic Curves

Fig.1 $I_F - V_F$

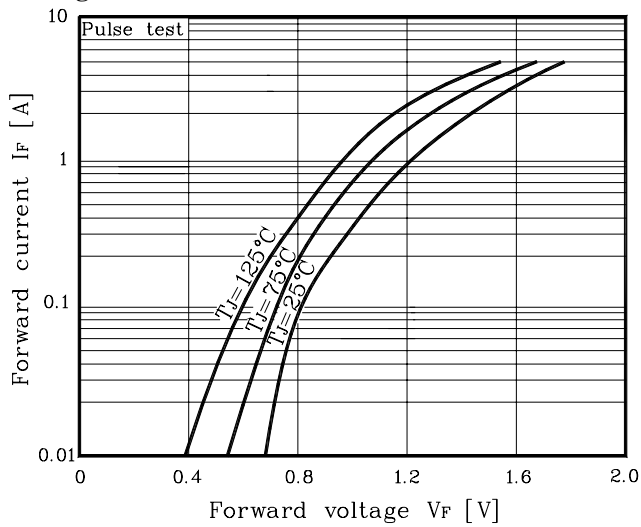


Fig. 2 $I_R - V_R$

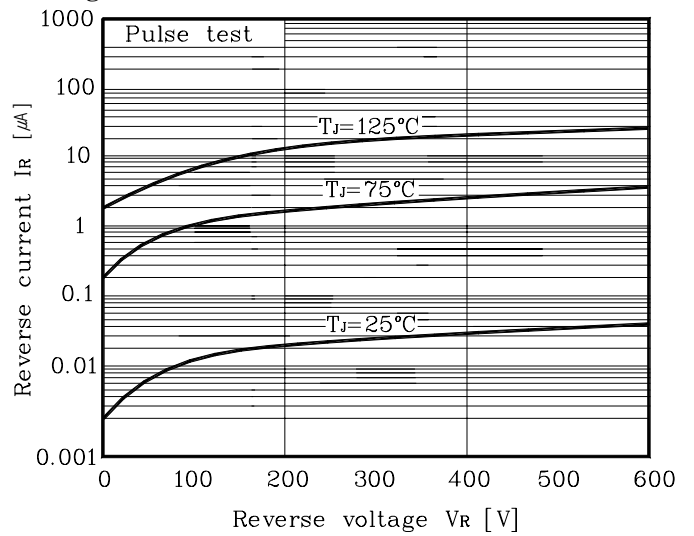


Fig. 3 $P_F - I_O$

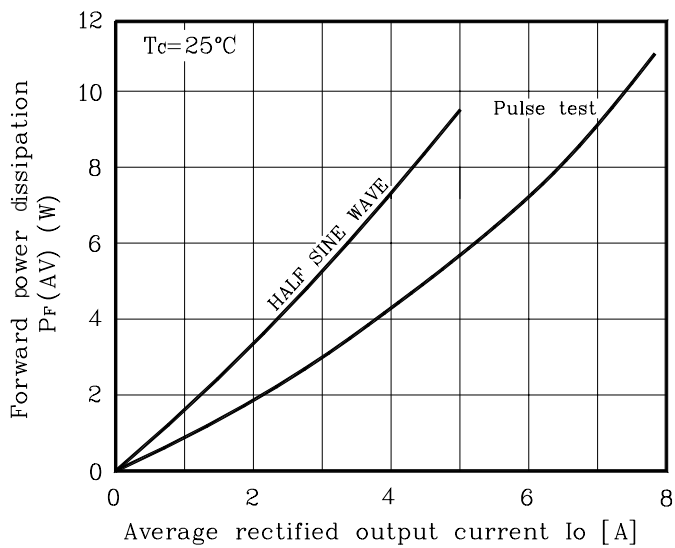


Fig. 4 $C_J - V_R$

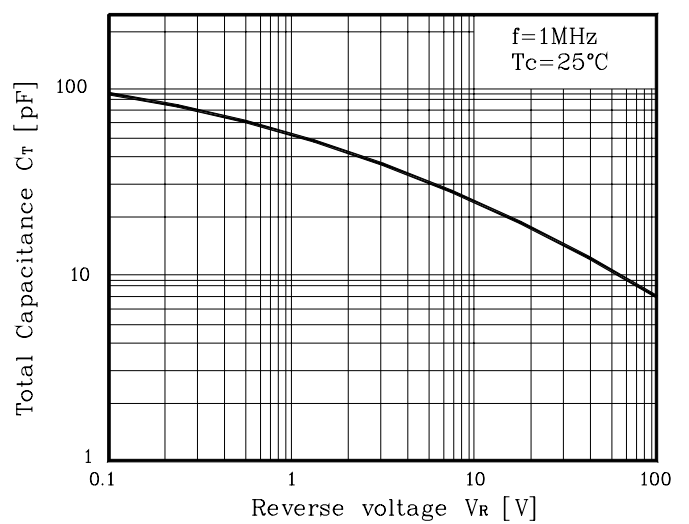


Fig. 5 $I_{FSM} - \text{Number of cycle}$

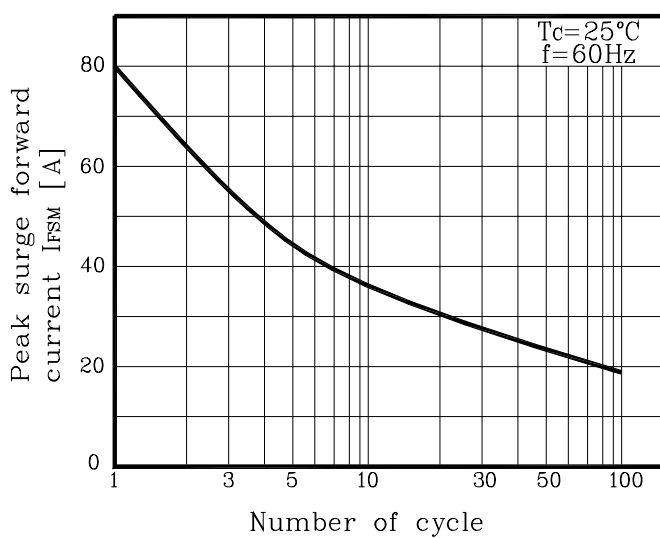
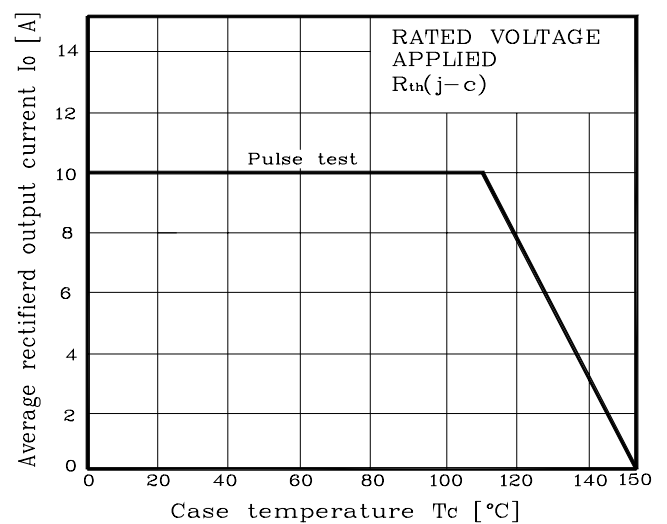
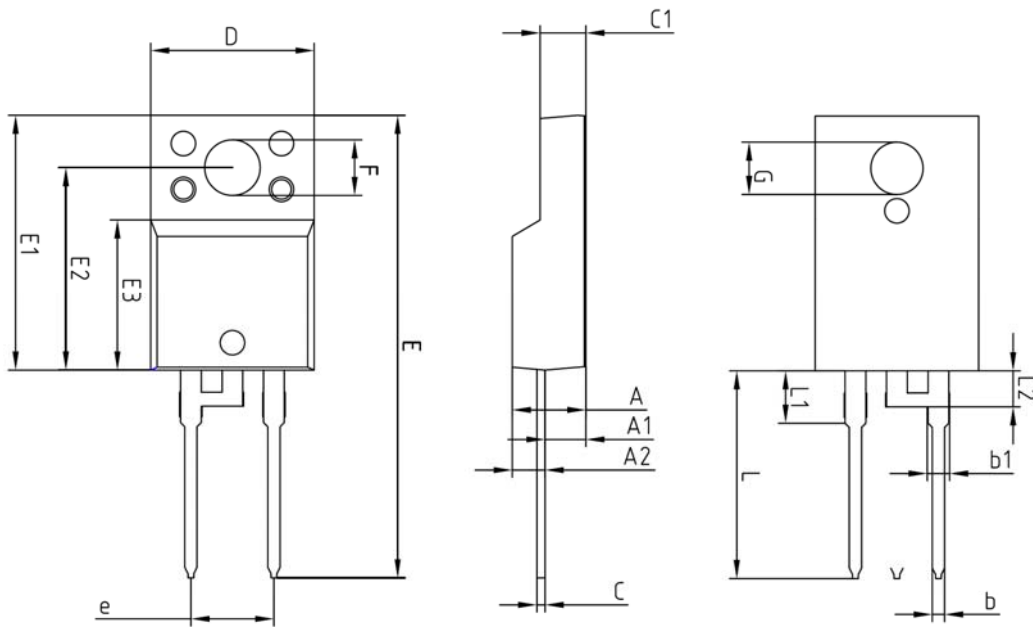


Fig. 6 I_O derating - T_c



Outline Dimension



| SYMBOL | MILLIMETERS | | | NOTE |
|--------|-------------|---------|---------|------|
| | MINIMUM | NOMINAL | MAXIMUM | |
| A | — | — | 4.60 | |
| A1 | 2.45 | 2.50 | 2.55 | |
| A2 | 1.95 | 2.00 | 2.05 | |
| b | 0.65 | 0.75 | 0.85 | |
| b1 | 1.07 | 1.27 | 1.47 | |
| C | 0.40 | 0.50 | 0.60 | |
| C1 | 2.70 | 2.80 | 2.90 | |
| D | 9.90 | 10.00 | 10.10 | |
| E | 28.00 | — | 28.60 | |
| E1 | 15.50 | 15.60 | 15.70 | |
| E2 | 12.30 | 12.40 | 12.50 | |
| E3 | 9.15 | 9.20 | 9.25 | |
| F | 3.30 | 3.40 | 3.50 | |
| G | 3.10 | 3.20 | 3.30 | |
| e | 5.08 BSC | | | |
| L | 12.40 | — | 13.00 | |
| L1 | 3.46 BSC | | | |
| L2 | 2.21 BSC | | | |

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