

TOSHIBA Thyristor Silicon Planar Type

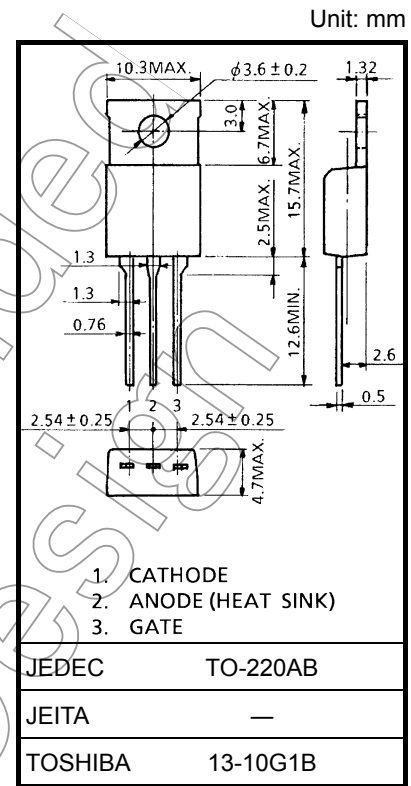
SF8G41A, SF8J41A

Medium Power Control Applications

- Repetitive peak off-state voltage: $V_{DRM} = 400\text{ V}, 600\text{ V}$
 Repetitive peak reverse voltage: $V_{RRM} = 400\text{ V}, 600\text{ V}$
- Average on-state current: $I_T (AV) = 8\text{ A}$
- Gate trigger current: $I_{GT} = 15\text{ mA (max)}$

Maximum Ratings

| Characteristic | Symbol | Rating | Unit |
|---|-------------|------------|------------------------|
| Repetitive peak off-state voltage and repetitive peak reverse voltage | SF8G41A | V_{DRM} | 400 |
| | SF8J41A | V_{RRM} | 600 |
| Non-repetitive peak reverse voltage (non-repetitive < 5 ms, $T_j = 0\sim 125^\circ\text{C}$) | SF8G41A | V_{RSM} | 500 |
| | SF8J41A | | 720 |
| Average on-state current (half-sine waveform $T_c = 83^\circ\text{C}$) | $I_T (AV)$ | 8 | A |
| R.M.S on-state current | $I_T (RMS)$ | 12.6 | A |
| Peak one cycle surge on-state current (non-repetitive) | I_{TSM} | 120 (50Hz) | A |
| | | 132 (60Hz) | |
| I^2t limit value | I^2t | 72 | A^2s |
| Critical rate of rise of on-state current | di/dt | 100 | $\text{A}/\mu\text{s}$ |
| Peak gate power dissipation | P_{GM} | 5 | W |
| Average gate power dissipation | $P_G (AV)$ | 0.5 | W |
| Peak forward gate voltage | V_{FGM} | 10 | V |
| Peak reverse gate voltage | V_{RGM} | -5 | V |
| Peak forward gate current | I_{GM} | 2 | A |
| Junction temperature | T_j | -40~125 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -40~125 | $^\circ\text{C}$ |

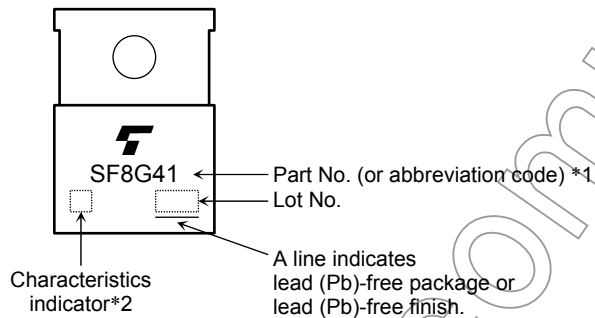


Weight: 2.0 g (typ.)

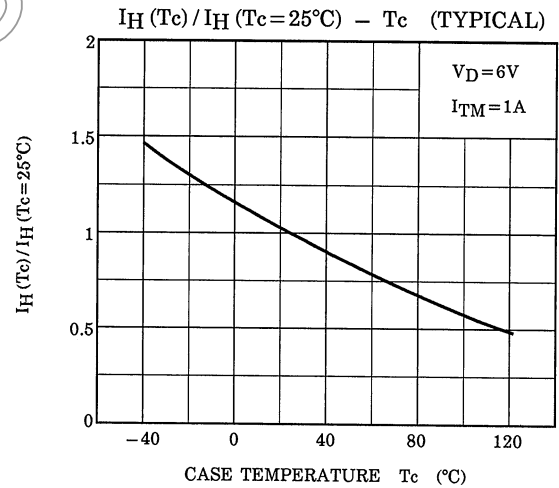
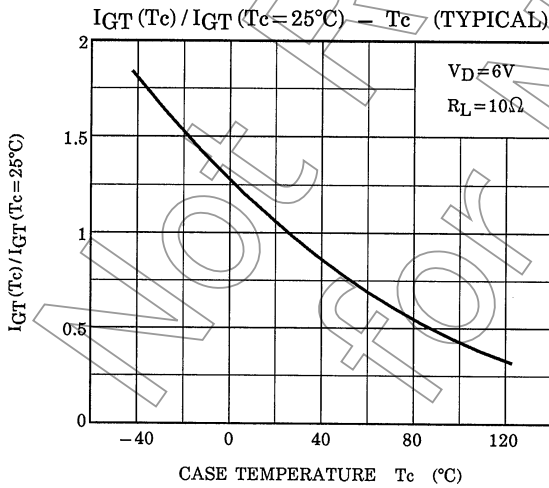
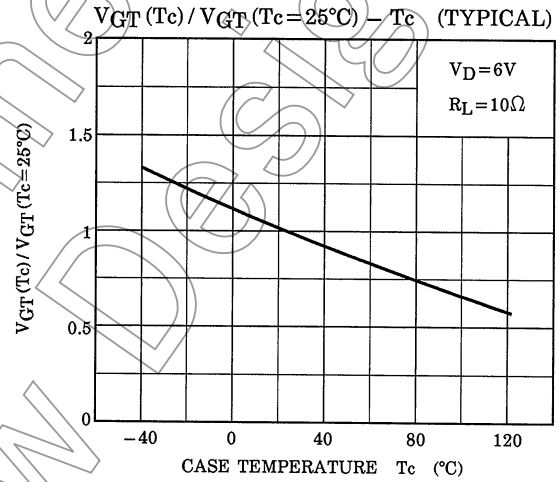
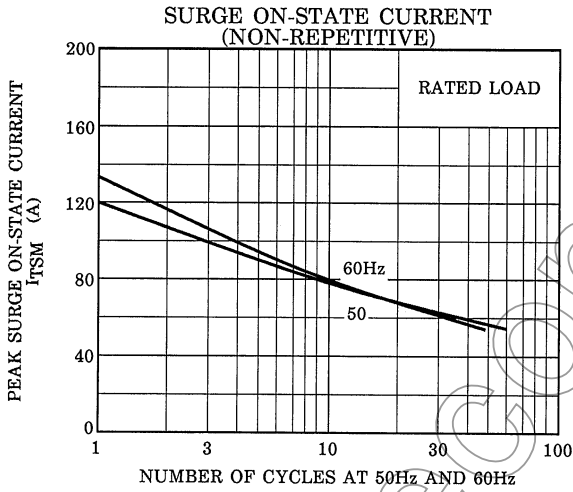
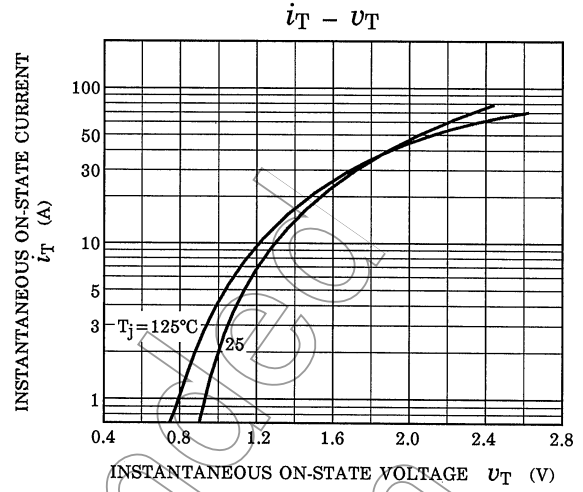
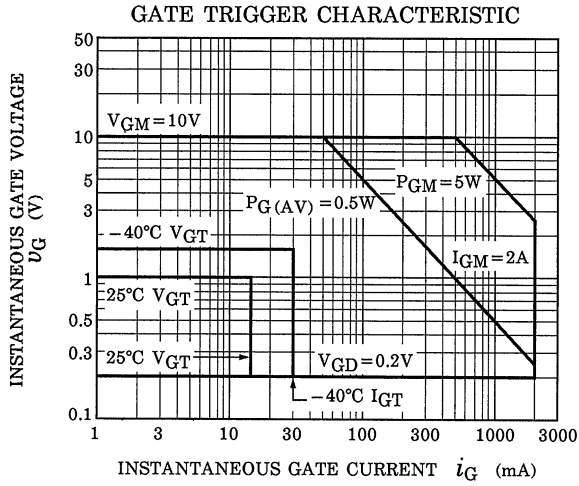
Electrical Characteristics (Ta = 25°C)

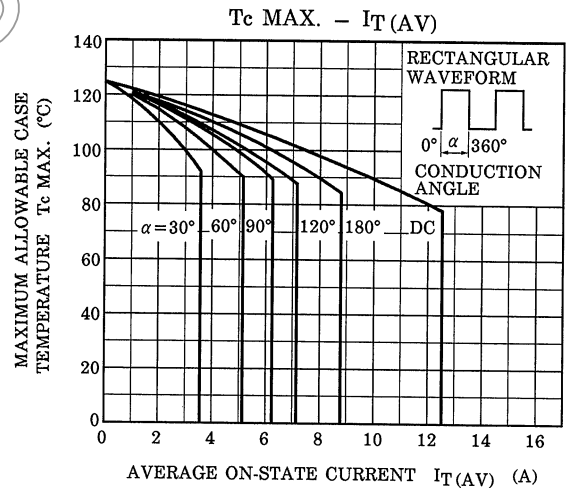
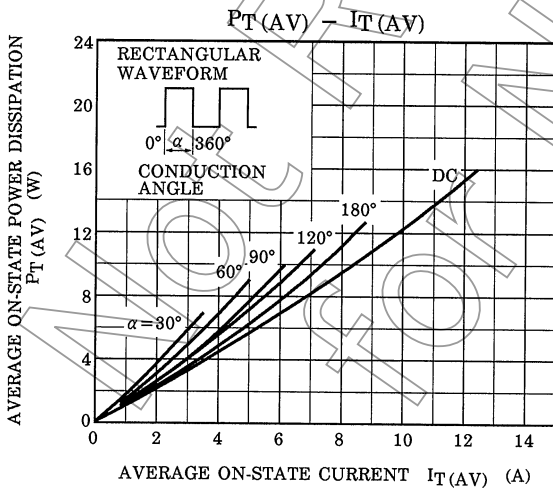
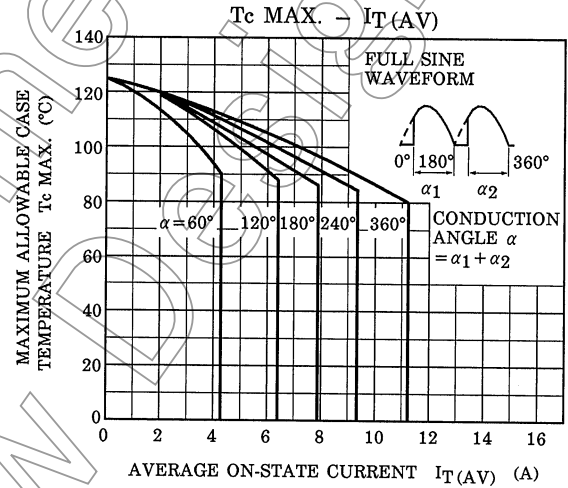
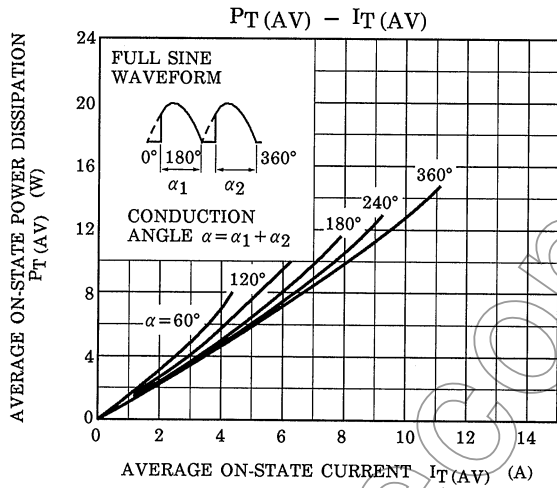
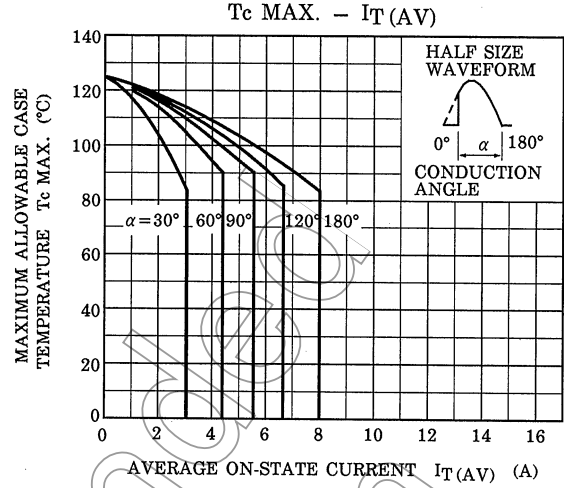
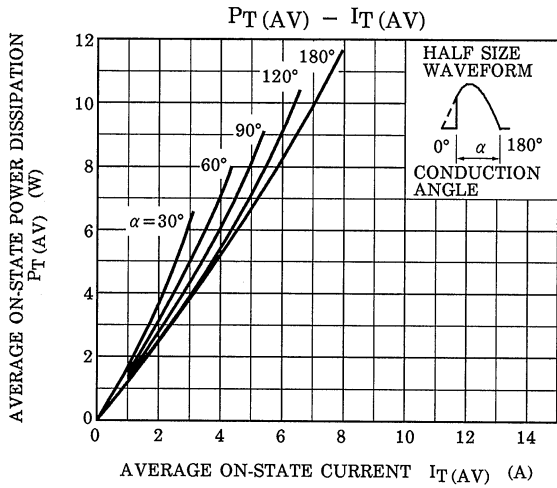
| Characteristic | Symbol | Test Condition | Min | Typ. | Max | Unit |
|---|------------------------|--|-----|------|-----|-----------------------------|
| Repetitive peak off-state current and repetitive peak reverse current | I_{DRM} I_{RRM} | $V_{DRM} = V_{RRM} = \text{Rated}$ | — | — | 10 | μA |
| Peak on-state voltage | V_{TM} | $I_{TM} = 25 \text{ A}$ | — | — | 1.6 | V |
| Gate trigger voltage | V_{GT} | $V_D = 6 \text{ V}, R_L = 10 \Omega$ | — | — | 1.0 | V |
| Gate trigger current | I_{GT} | | — | — | 15 | mA |
| Gate non-trigger voltage | V_{GD} | $V_D = \text{Rated} \times 2 / 3, T_c = 125^\circ\text{C}$ | 0.2 | — | — | V |
| Critical rate of rise of off-state voltage | dv / dt | $V_{DRM} = \text{Rated} \times 2 / 3, T_c = 125^\circ\text{C}$ Exponential Rise | 100 | — | — | V / μs |
| Holding current | I_H | $V_D = 6 \text{ V}, I_{TM} = 1 \text{ A}$ | — | — | 40 | mA |
| Latching current | I_L | $V_D = 6 \text{ V}, f = 50 \text{ Hz}, t_{gw} = 50 \mu\text{s}$ $i_G = 30 \text{ mA}$ | — | — | 60 | mA |
| Thermal resistance | $R_{th(j-c)}$ | Junction to case | — | — | 3 | $^\circ\text{C} / \text{W}$ |

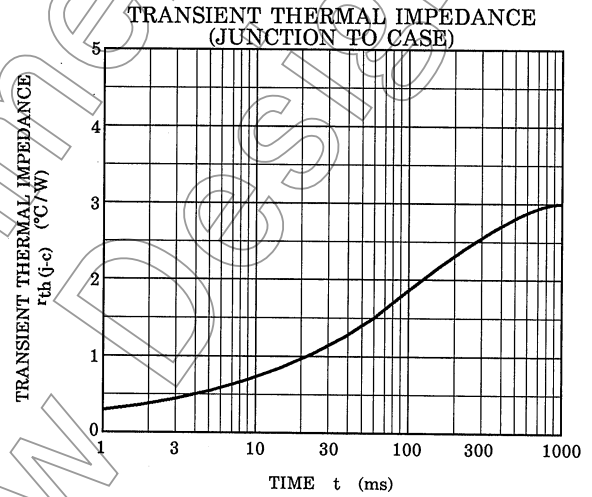
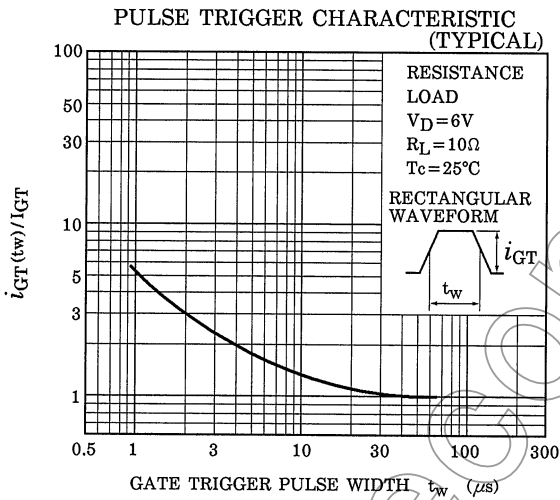
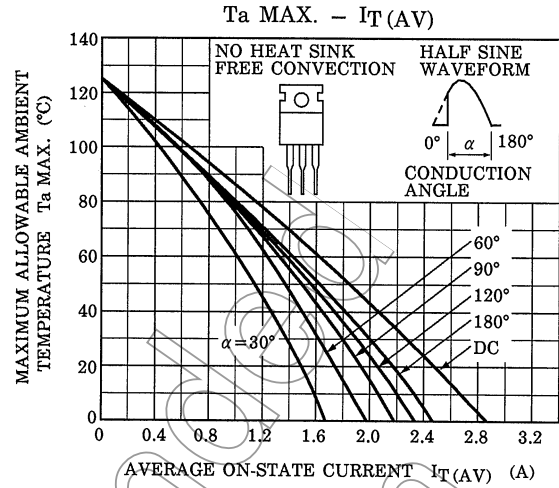
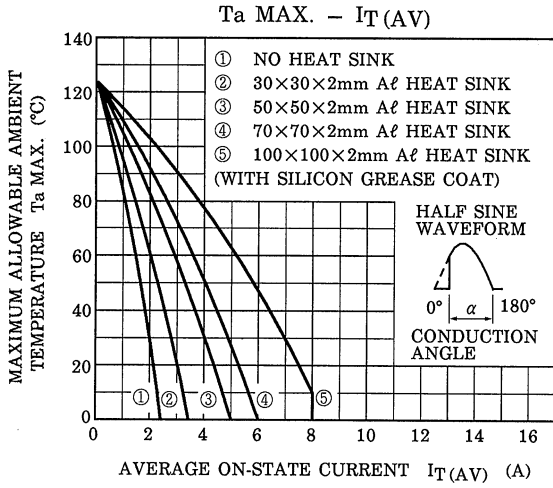
Marking



| | Part No. (or abbreviation code) | Part No. |
|----|------------------------------------|------------------|
| *1 | SF8G41 | SF8G41A |
| | SF8J41 | SF8J41A |
| *2 | A | SF8G41A, SF8J41A |







Not Recommended for New

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20070701-EN GENERAL

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