

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF10G41A,SF10J41A

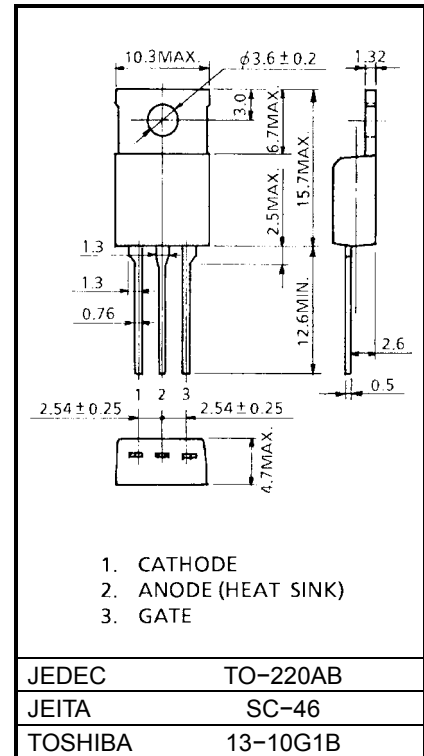
MEDIUM POWER CONTROL APPLICATIONS

- Repetitive Peak Off-State Voltage : $V_{DRM} = 400,600V$
Repetitive Peak Reverse Voltage : $V_{RRM} = 400,600V$
- Average On-State Current : $I_T (AV) = 10A$
- Gate Trigger Current : $I_{GT} = 15mA (Max.)$

MAXIMUM RATINGS

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|-------------|------------|-------------|
| Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage | SF10G41A | 400 | V |
| | SF10J41A | 600 | |
| Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $T_j = 0 \sim 125^\circ C$) | SF10G41A | 500 | V |
| | SF10J41A | 720 | |
| Average On-State Current (Half Sine Waveform $T_c = 79^\circ C$) | $I_T (AV)$ | 10 | A |
| R.M.S On-State Current | $I_T (RMS)$ | 16 | A |
| Peak One Cycle Surge On-State Current (Non-Repetitive) | I_{TSM} | 160 (50Hz) | A |
| | | 176 (60Hz) | |
| I^2t Limit Value | I^2t | 125 | A^2s |
| Critical Rate of Rise of On-State Current | di / dt | 100 | $A / \mu s$ |
| 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 | $^\circ C$ |
| Storage Temperature Range | T_{stg} | -40~125 | $^\circ C$ |

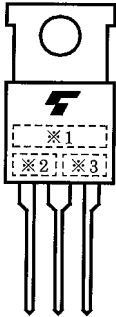
Unit: mm

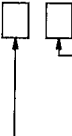


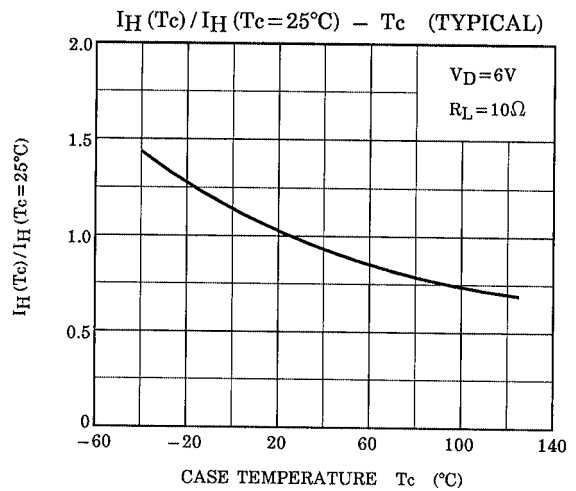
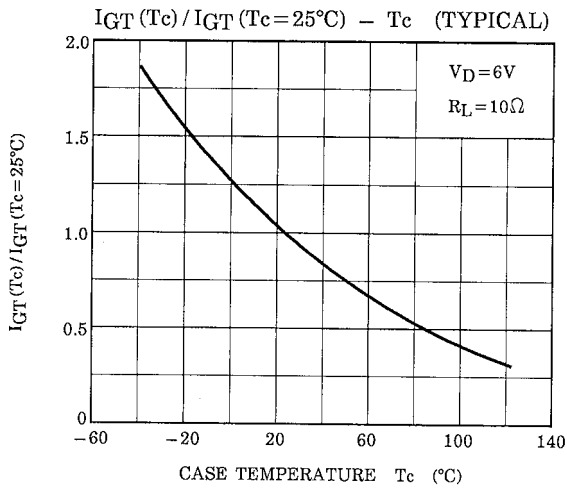
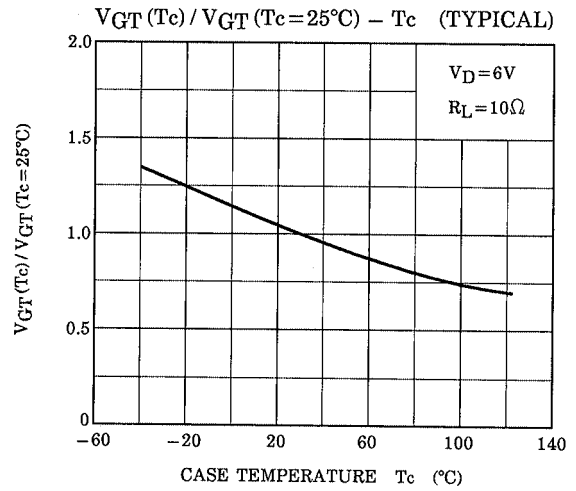
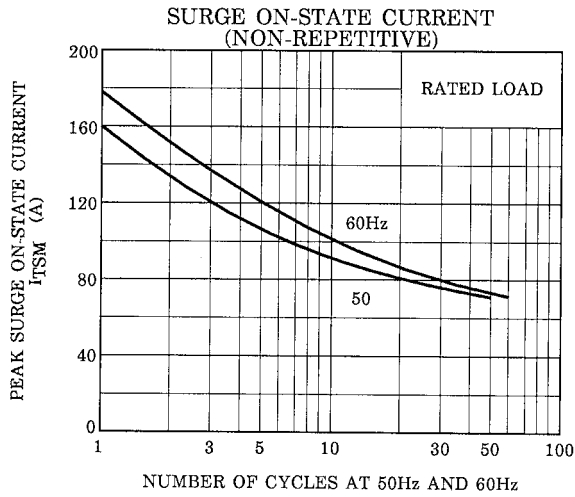
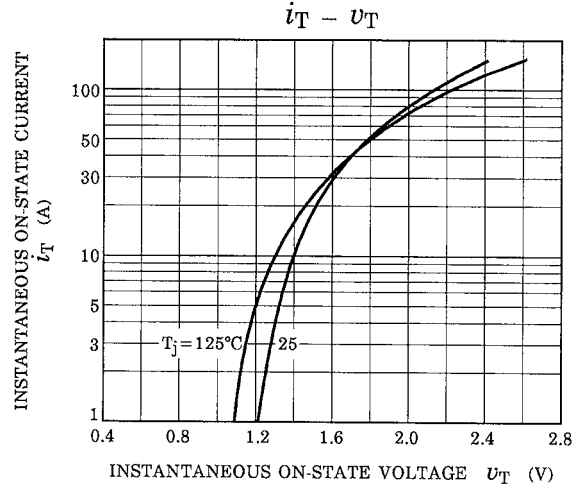
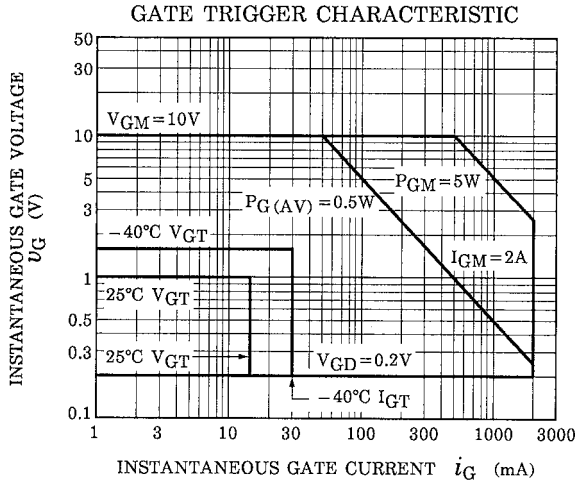
Weight: 2g

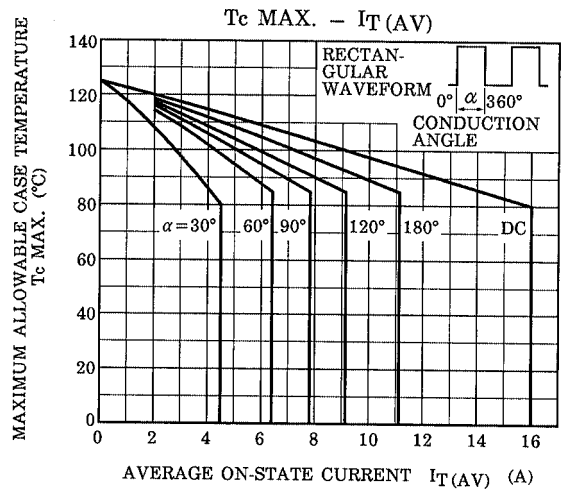
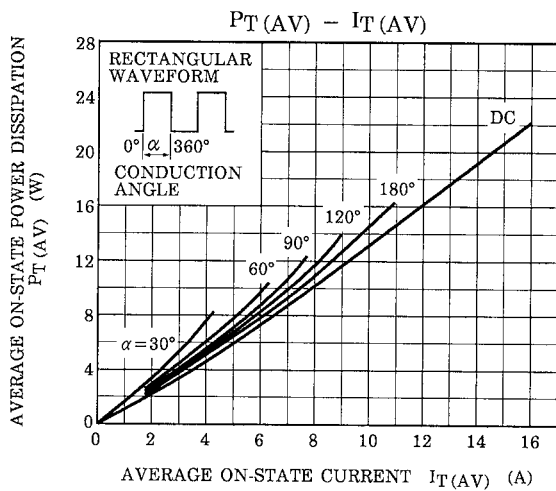
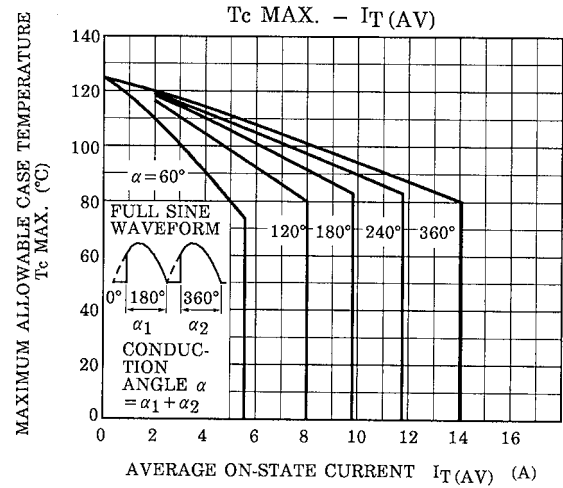
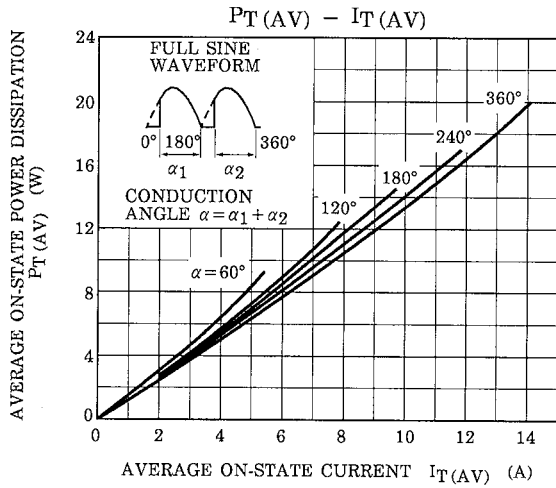
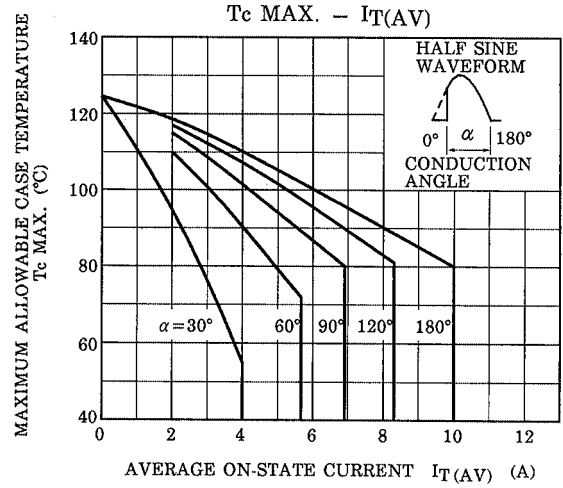
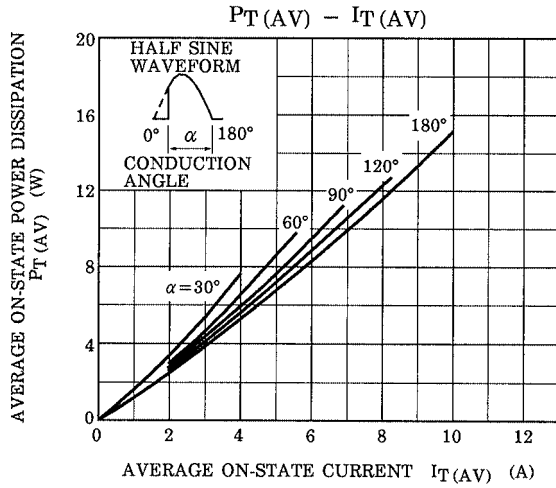
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

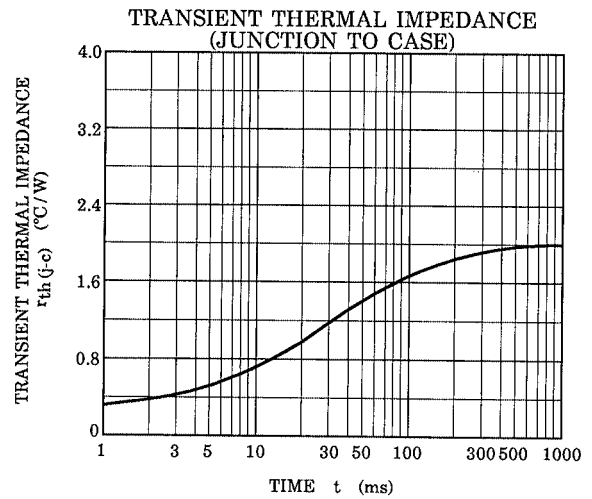
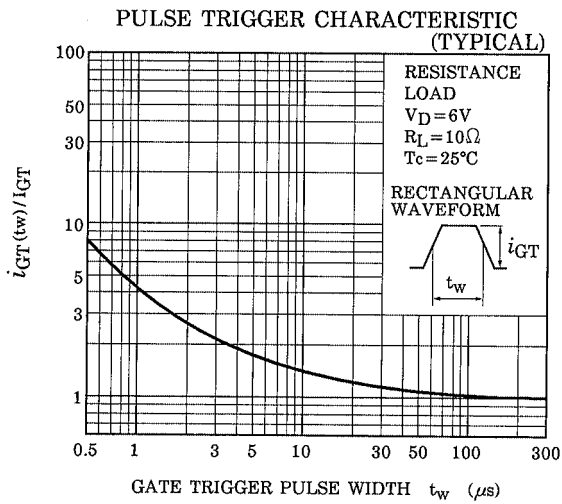
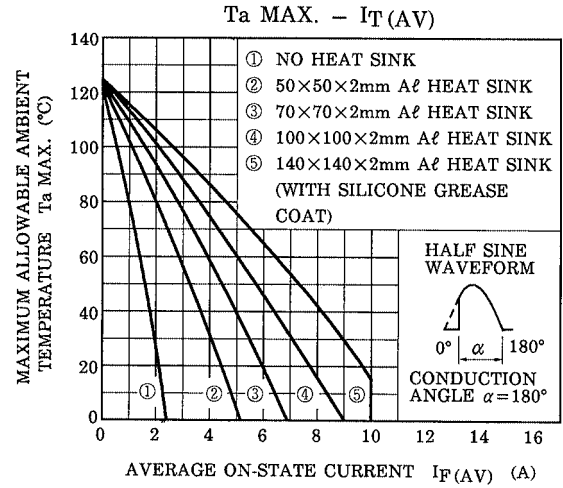
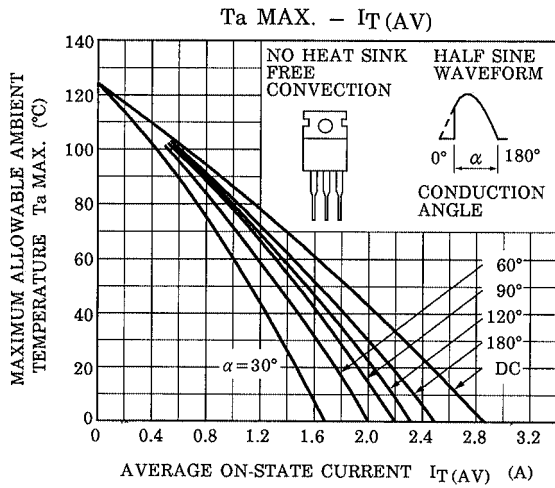
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN | MAX | UNIT |
|---|------------------------|--|-----|-----|-----------------------------|
| Repetitive Peak Off-State Current and Repetitive Peak Reverse Current | I_{DRM} I_{RRM} | $V_{DRM} = V_{RRM} = \text{Rated}$ | — | 10 | μA |
| Peak On-State Voltage | V_{TM} | $I_{TM} = 30\text{A}$ | — | 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 | — | 2.0 | $^\circ\text{C} / \text{W}$ |

MARKING

| NUMBER | SYMBOL | MARK |
|--------|---|--|
| *1 | TYPE | SF10G41A |
| | | SF10J41A |
| *2 | SF10G41A, SF10J41A | A |
| *3 | Lot Number  Month (Starting from Alphabet A) Year (Last Decimal Digit of the Current Year) | Example 8A : January 1998 8B : February 1998 8L : December 1998 |







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