

**SANYO**

No.4730

**DTN6**

Silicon Diffused Junction Type

**6A Bidirectional Thyristor****Features**

- AC power control.
- Peak OFF-state voltage : 400, 600V.
- RMS ON-state current : 6A.

**Absolute Maximum Ratings at Ta = 25°C**

|                                           |                  |                                                  | DTN6E | DTN6G       | unit             |
|-------------------------------------------|------------------|--------------------------------------------------|-------|-------------|------------------|
| Repetitive Peak OFF-State Voltage         | $V_{DRM}$        |                                                  | 400   | 600         | V                |
| RMS ON-State Current                      | $I_{T(RMS)}$     | Single-phase full-wave, $T_c = 90^\circ\text{C}$ | →     | 6           | A                |
| Surge ON-State Current                    | $I_{TSM}$        | Peak 1 cycle, 50Hz                               | →     | 60          | A                |
| Amperes Squared-Seconds                   | $SiT^2 \cdot dt$ | $1\text{ms} \leq t \leq 10\text{ms}$             | →     | 18          | A <sup>2</sup> S |
| Critical Rate of Rise of ON-State Current | $diT/dt$         |                                                  | →     | 50          | A/ $\mu\text{s}$ |
| Peak Gate Power Dissipation               | $P_{GM}$         |                                                  | →     | 5           | W                |
| Average Gate Power Dissipation            | $P_{G(AV)}$      |                                                  | →     | 0.5         | W                |
| Peak Gate Forward Current                 | $I_{GM}$         |                                                  | →     | $\pm 2$     | A                |
| Peak Gate Forward Voltage                 | $V_{GM}$         |                                                  | →     | $\pm 10$    | V                |
| Junction Temperature                      | $T_j$            |                                                  | →     | 125         | °C               |
| Storage Temperature                       | $T_{stg}$        |                                                  | →     | -40 to +125 | °C               |
| Weight                                    |                  |                                                  | →     | 1.7         | g                |

**Electrical Characteristics at Ta = 25°C**

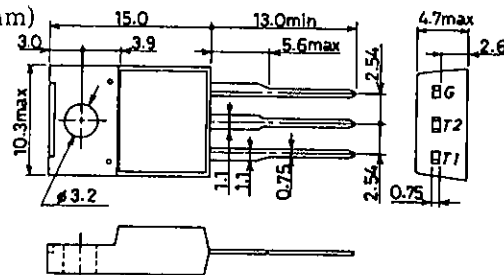
|                                                        |               |                                              | min | typ | max | unit             |
|--------------------------------------------------------|---------------|----------------------------------------------|-----|-----|-----|------------------|
| Repetitive Peak OFF-State Current                      | $I_{DRM}$     | $V_D = V_{DRM}$                              |     |     | 20  | $\mu\text{A}$    |
| Peak ON-State Voltage                                  | $V_{TM}$      | $I_{TM} = 9\text{A}$                         |     |     | 1.5 | V                |
| Critical Rate of Rise of Commutating OFF-State Voltage |               | $V_D = 400\text{V}, T_j = 125^\circ\text{C}$ | 4   |     |     | V/ $\mu\text{s}$ |
| Holding Current                                        | $I_H$         | $I_{TM} = 1\text{A}, V_D = 12\text{V}$       |     |     | 50  | mA               |
| Gate · Trigger Current * (I)                           | $I_{GT}$      | $V_D = 12\text{V}, R_L = 20\Omega$           |     |     | 20  | mA               |
| " (II)                                                 | $I_{GT}$      | $V_D = 12\text{V}, R_L = 20\Omega$           |     |     | 20  | mA               |
| " (III)                                                | $I_{GT}$      | $V_D = 12\text{V}, R_L = 20\Omega$           |     | 30  |     | mA               |
| " (IV)                                                 | $I_{GT}$      | $V_D = 12\text{V}, R_L = 20\Omega$           |     |     | 20  | mA               |
| Gate · Trigger Voltage * (I)                           | $V_{GT}$      | $V_D = 12\text{V}, R_L = 20\Omega$           |     |     | 1.5 | V                |
| " (II)                                                 | $V_{GT}$      | $V_D = 12\text{V}, R_L = 20\Omega$           |     |     | 1.5 | V                |
| " (III)                                                | $V_{GT}$      | $V_D = 12\text{V}, R_L = 20\Omega$           |     | 1.0 |     | V                |
| " (IV)                                                 | $V_{GT}$      | $V_D = 12\text{V}, R_L = 20\Omega$           |     |     | 1.5 | V                |
| Gate · Nontrigger Voltage                              | $V_{GD}$      | $T_c = 125^\circ\text{C}, V_D = V_{DRM}$     | 0.2 |     |     | V                |
| Thermal Resistance                                     | $R_{th(j-c)}$ | AC                                           |     |     | 3.8 | °C/W             |

\* : The gate trigger modes are shown below.

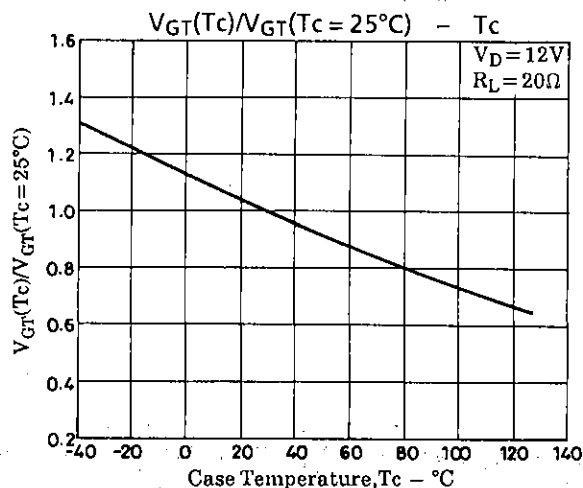
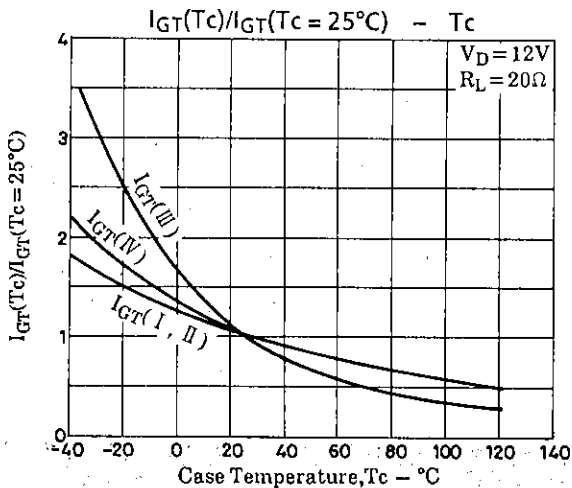
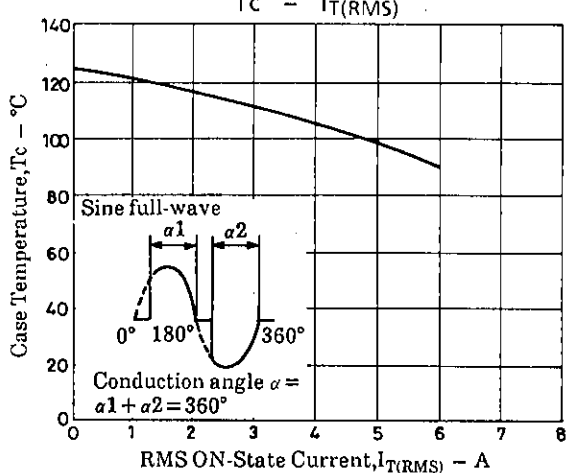
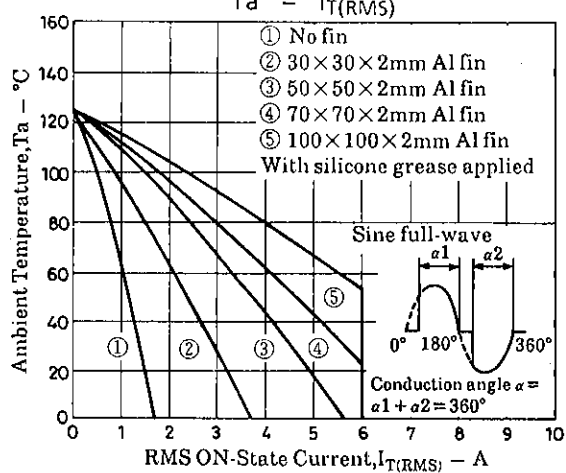
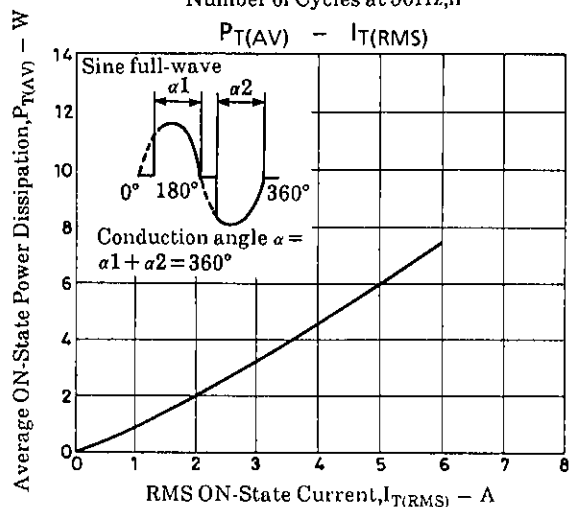
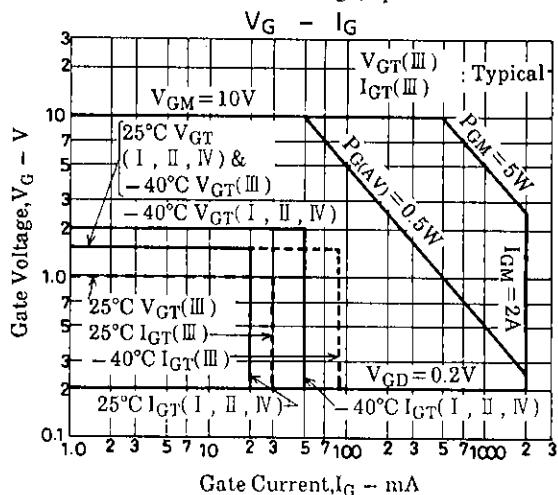
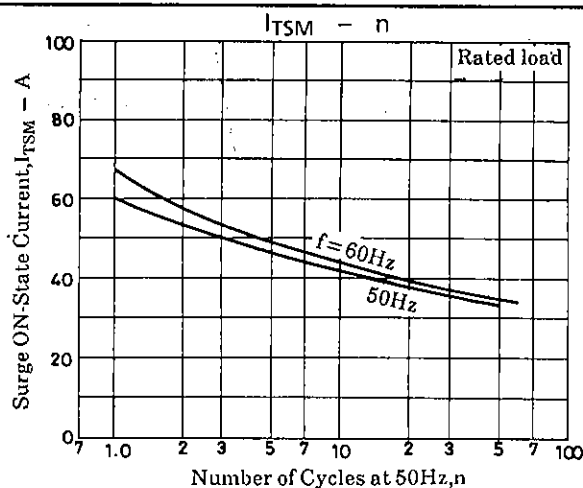
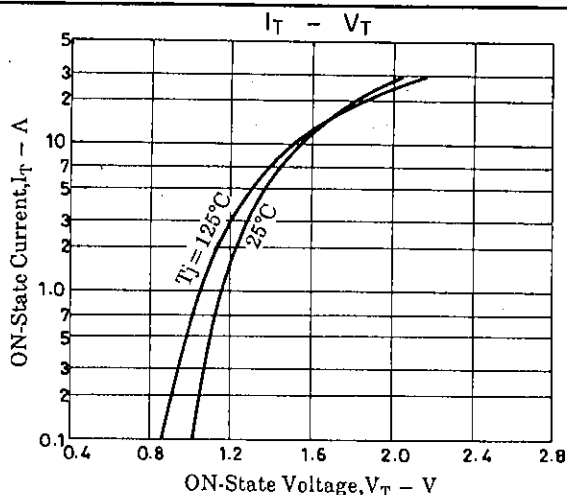
| Trigger mode | T2 | T1 | G |
|--------------|----|----|---|
| I            | +  | -  | + |
| II           | +  | -  | - |
| III          | -  | +  | + |
| IV           | -  | +  | - |

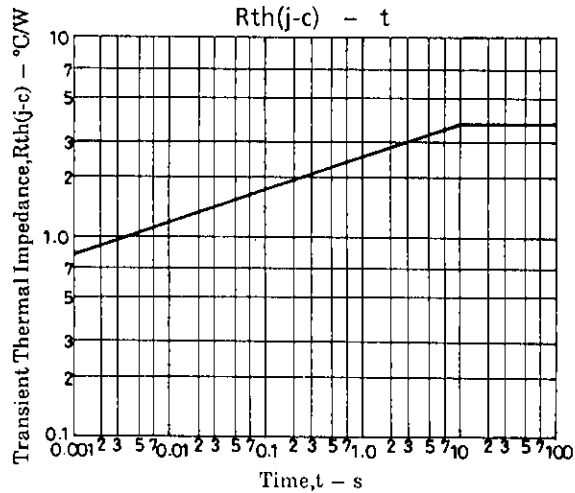
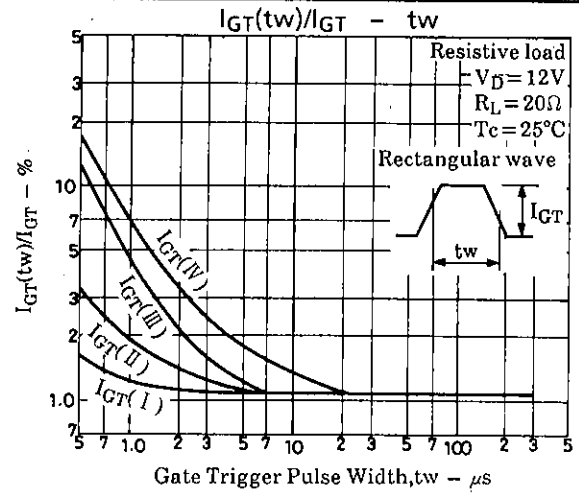
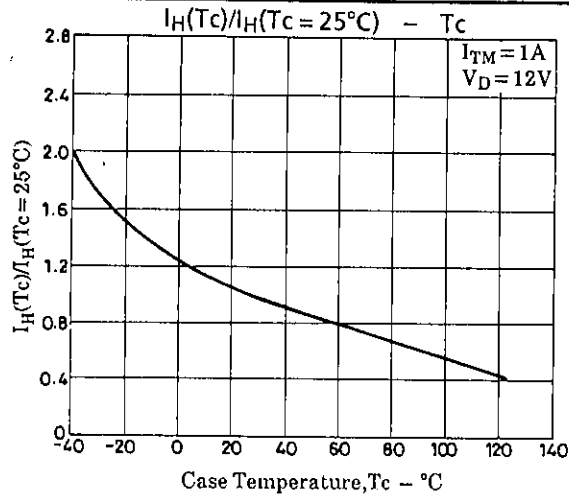
**Package Dimensions 1263**

(unit : mm)

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