

SANYO**DTN8**

Silicon Diffused Junction Type

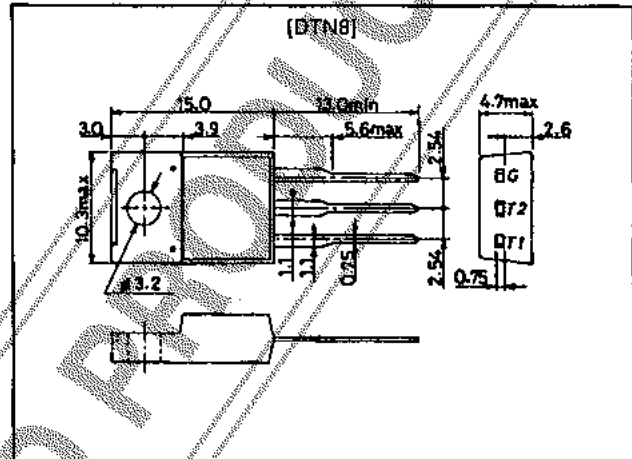
8A Bidirectional Thyristor**Features**

- AC power control.
- Peak OFF-state voltage : 400, 600V.
- RMS ON-state current : 8A.

Package Dimensions

unit:mm

1263



* : The gate trigger modes are shown below.

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

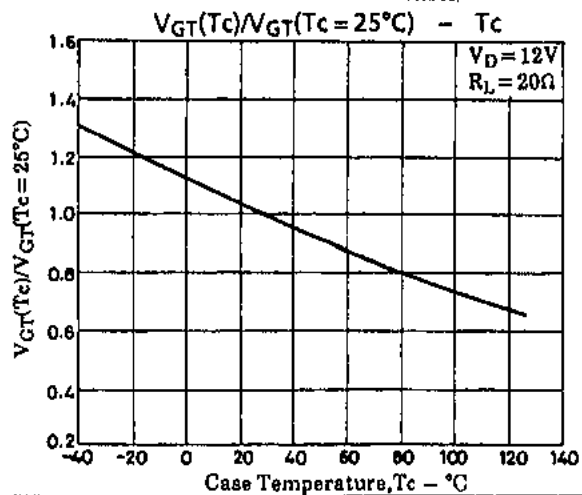
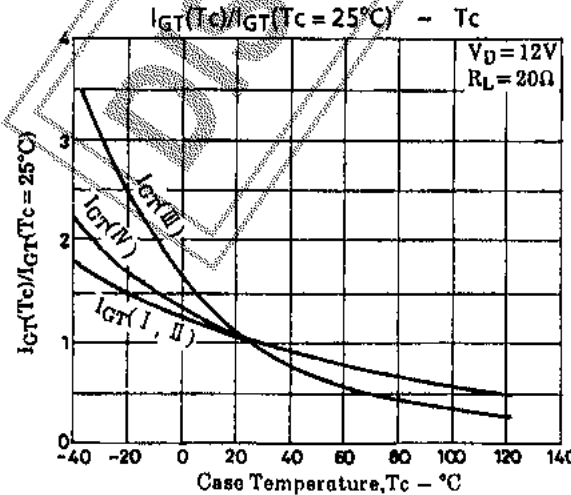
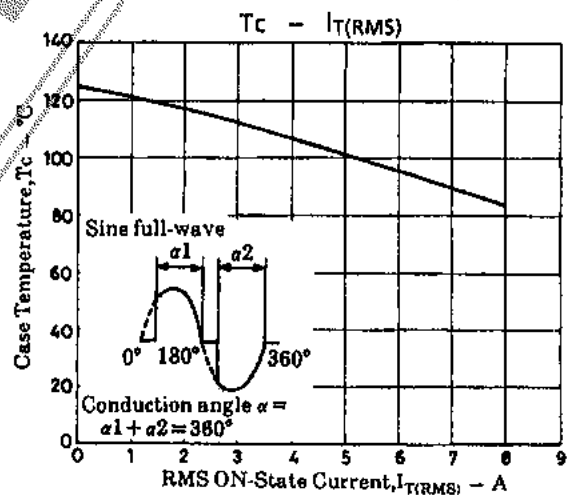
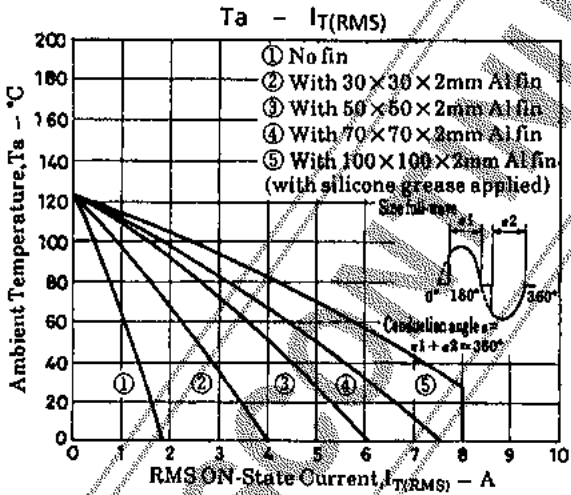
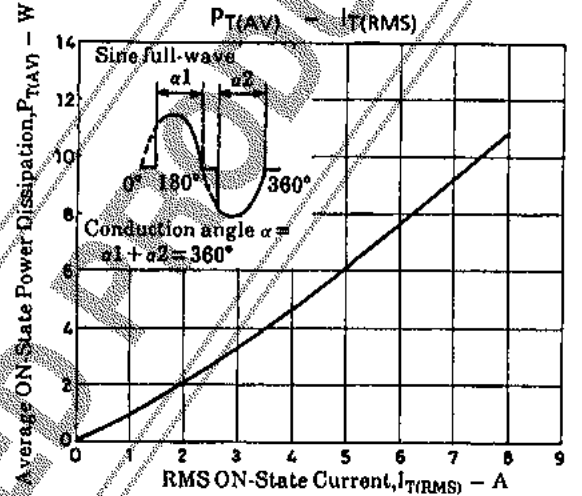
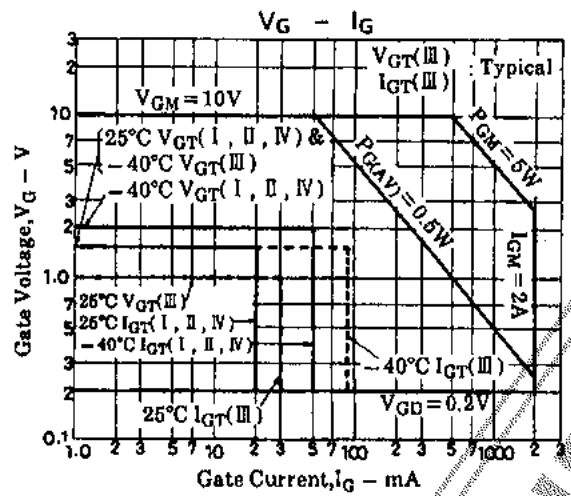
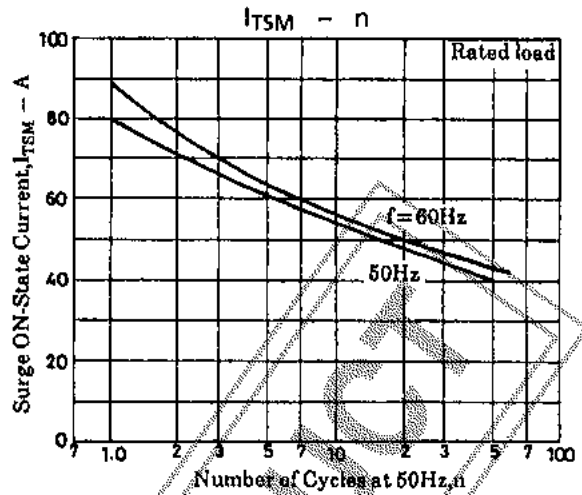
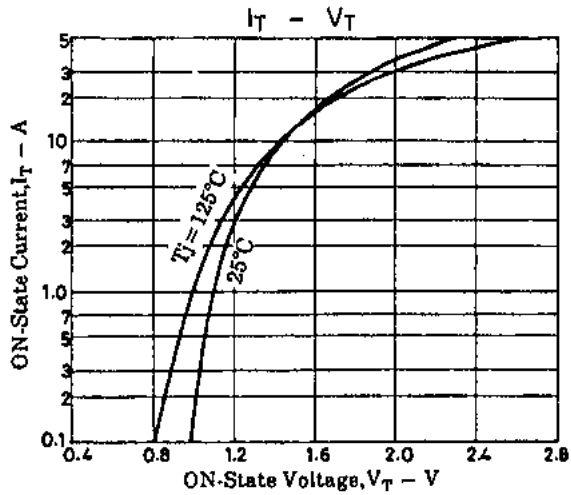
Specifications**Absolute Maximum Ratings at Ta = 25°C**

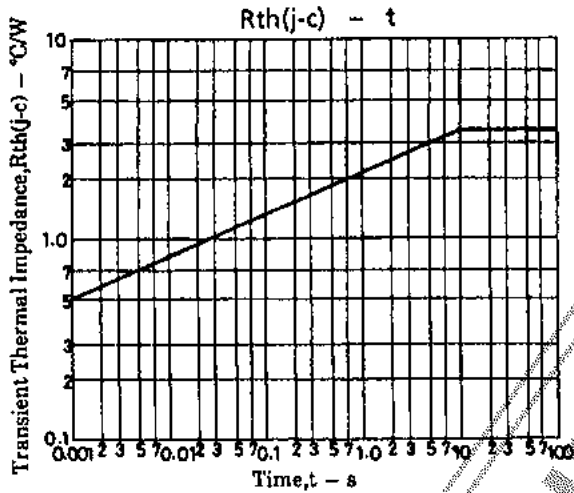
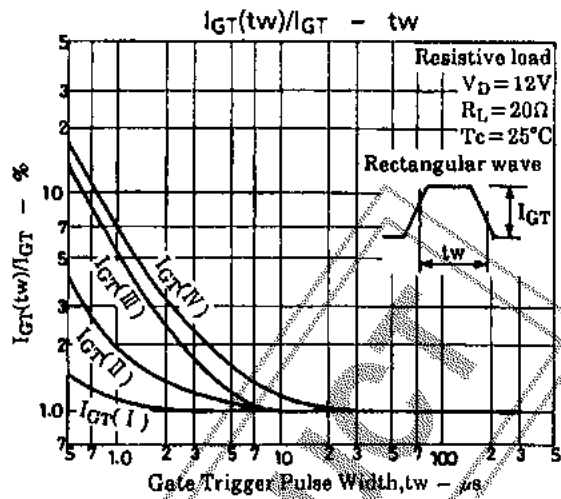
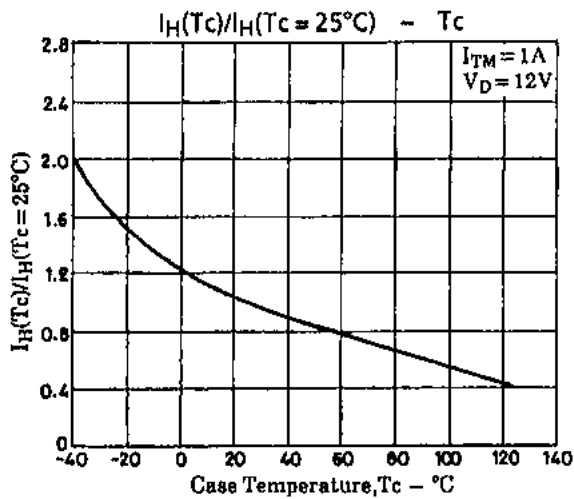
| Parameter | Symbol | Conditions | DTN8E | DTN8G | Unit |
|---|-------------|--|-------|-------------|------------------|
| Repetitive Peak OFF-State Voltage | V_{DRM} | | 400 | 600 | V |
| RMS ON-State Current | $I_T(RMS)$ | Single-phase full-wave, $T_c=83^\circ\text{C}$ | → | 8 | A |
| Surge ON-State Current | I_{TSM} | Peak 1 cycle, 50Hz | → | 80 | A |
| Ampere Squared-Seconds | $I^2T dt$ | Transistors | → | 32 | A ² S |
| Critical Rate of Rise of ON-State Current | di/dt | | → | 50 | A/ μs |
| Peak Gate Power Dissipation | P_{GM} | | → | 5 | W |
| Average Gate Power Dissipation | $P_{G(AV)}$ | | → | 0.5 | W |
| Peak Gate Forward Current | I_{GM} | | → | ±2 | A |
| Peak Gate Forward Voltage | V_{GM} | | → | ±10 | V |
| Junction Temperature | T_j | | → | 125 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | → | -40 to +125 | $^\circ\text{C}$ |
| Weight | | | → | 1.7 | g |

Electrical Characteristics at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|---|---------|-----|-----|--------------------|
| | | | min | typ | max | |
| Repetitive Peak OFF-State Current | I_{DRM} | $V_D=V_{DRM}$ | | | 20 | μA |
| Peak ON-State Voltage | V_{TM} | $I_{TM}=12\text{A}$ | | | 1.5 | V |
| Critical Rate of Rise of Commutating OFF-State Voltage | $(dv/dt)_C$ | $V_D=400\text{V}$, $T_j=125^\circ\text{C}$ | 4 | | | V/ μs |
| 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 |
| Gate Trigger Current* (II) | I_{GT} | $V_D=12\text{V}$, $R_L=20\Omega$ | | | 20 | mA |
| Gate Trigger Current* (III) | I_{GT} | $V_D=12\text{V}$, $R_L=20\Omega$ | | 30 | | mA |
| Gate Trigger Current* (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 |
| Gate Trigger Voltage* (II) | V_{GT} | $V_D=12\text{V}$, $R_L=20\Omega$ | | | 1.5 | V |
| Gate Trigger Voltage* (III) | V_{GT} | $V_D=12\text{V}$, $R_L=20\Omega$ | | 1.0 | | V |
| Gate Trigger Voltage* (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 | | | 3.6 | $^\circ\text{C/W}$ |

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