

SANYO

No.4732

DTN12

Silicon Diffused Junction Type

12A Bidirectional Thyristor**Features**

- AC power control.
- Peak OFF-state voltage : 400, 600V.
- RMS ON-state current : 12A.

Absolute Maximum Ratings at Ta = 25°C

			DTN12E	DTN12G	unit
Repetitive Peak OFF-State Voltage	V_{DRM}		400	600	V
RMS ON-State Current	$I_{T(RMS)}$	Single-phase full-wave, $T_c = 72^\circ\text{C}$	→	12	A
Surge ON-State Current	I_{TSM}	Peak 1 cycle, 50Hz	→	120	A
Amperes Squared-Seconds	$SiT^2 \cdot dt$	$1\text{ms} \leq t \leq 10\text{ms}$	→	72	A ² S
Critical Rate of Rise of ON-State Current	diT/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	°C
Storage Temperature	T_{stg}		→	-40 to +125	°C
Weight			→	1.7	g

Electrical Characteristics at Ta = 25°C

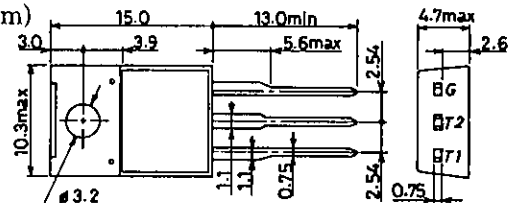
			min	typ	max	unit
Repetitive Peak OFF-State Current	I_{DRM}	$V_D = V_{DRM}$			20	μA
Peak ON-State Voltage	V_{TM}	$I_{TM} = 17\text{A}$			1.5	V
Critical Rate of Rise of Commutating OFF-State Voltage	$(dv/dt)_c$	$V_D = 400\text{V}, T_j = 125^\circ\text{C}$	4			V/ μs
Holding Current	I_H	$I_{TM} = 1\text{A}, V_D = 12\text{V}$			50	mA
Gate · Trigger Current * (I)	I_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			20	mA
" (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			3.0	°C/W

* : The gate trigger modes are shown below.

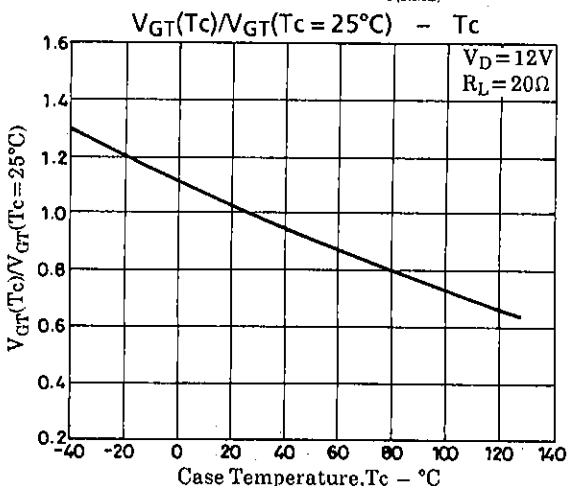
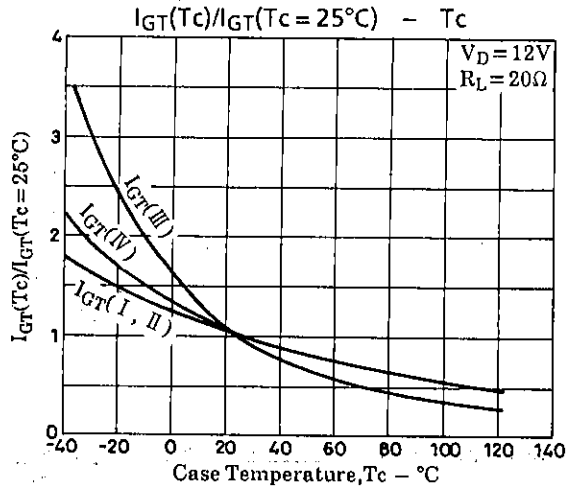
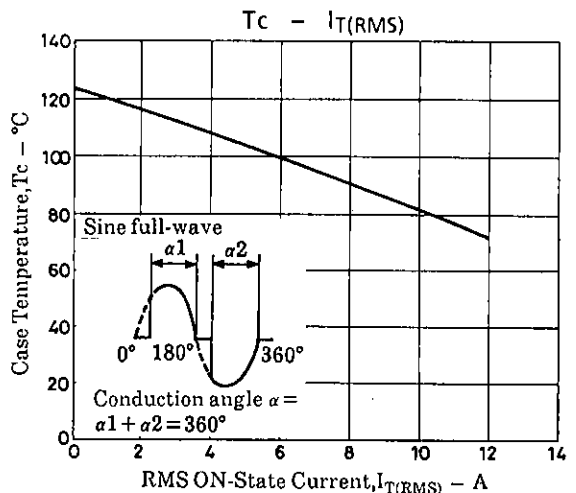
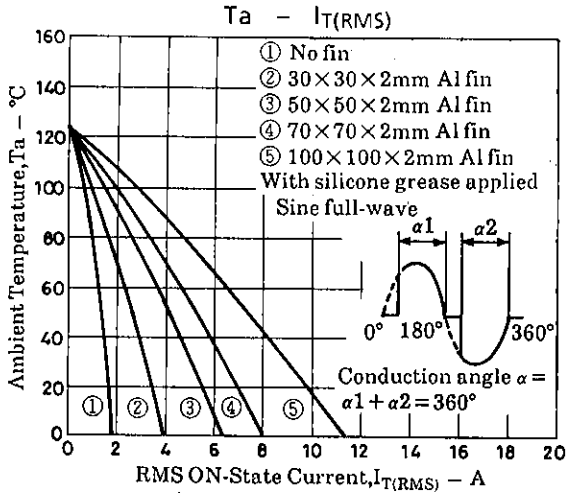
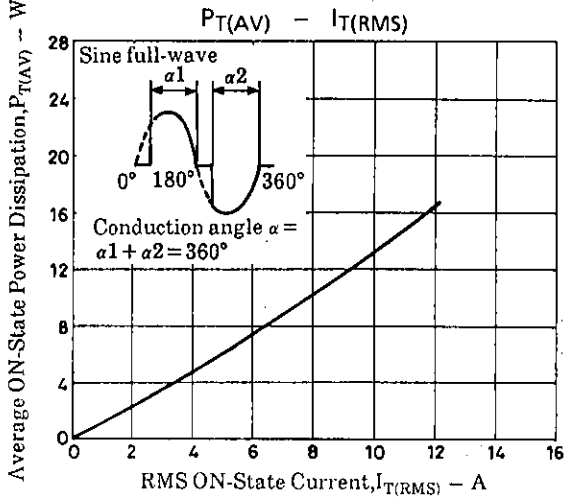
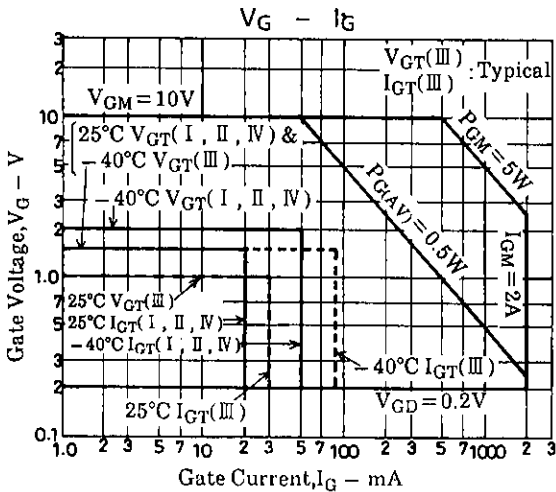
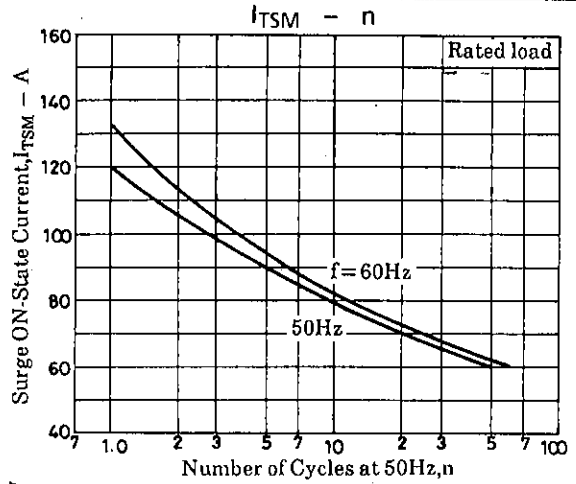
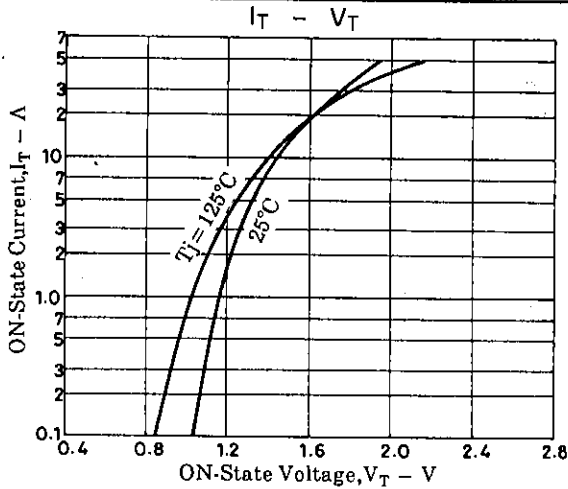
Trigger mode	T2	T1	G
I	+	-	+
II	+	-	-
III	-	+	+
IV	-	+	-

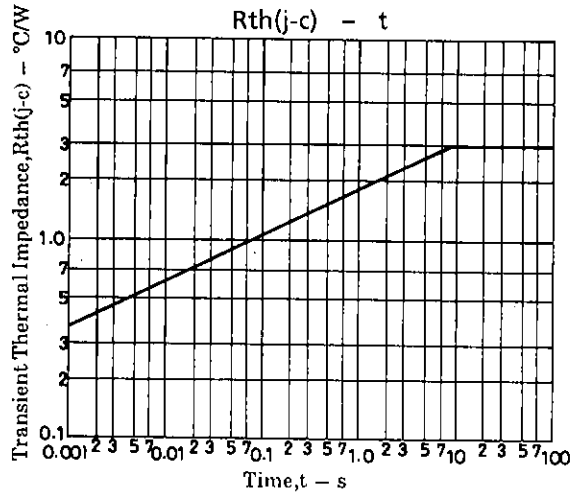
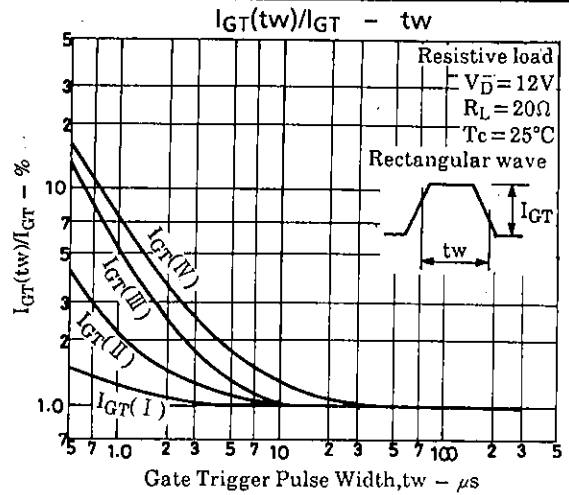
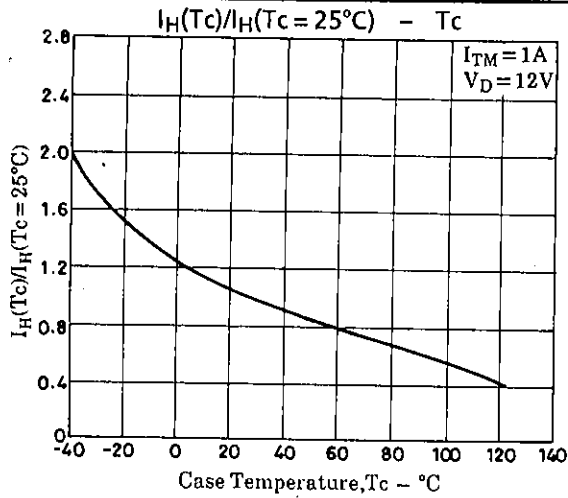
Package Dimensions 1263

(unit : mm)

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