Ordering number:EN4731

SANYO

DTN8

Silicon Diffused Junction Type

8A Bidirectional Thyristor

Features

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

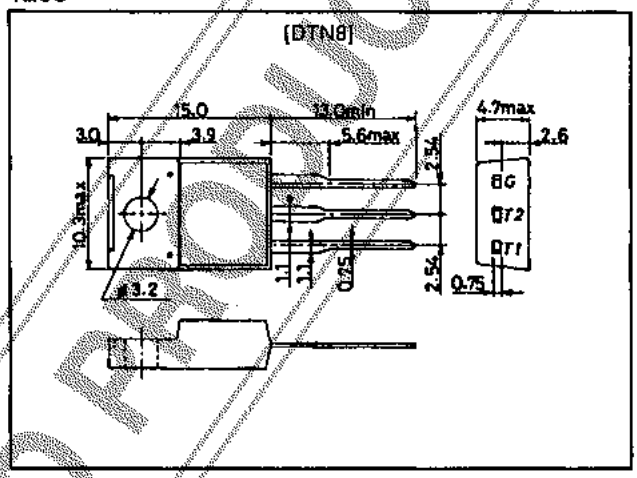
* : The gate trigger modes are shown below.

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

Package Dimensions

unit:mm

1263



Specifications

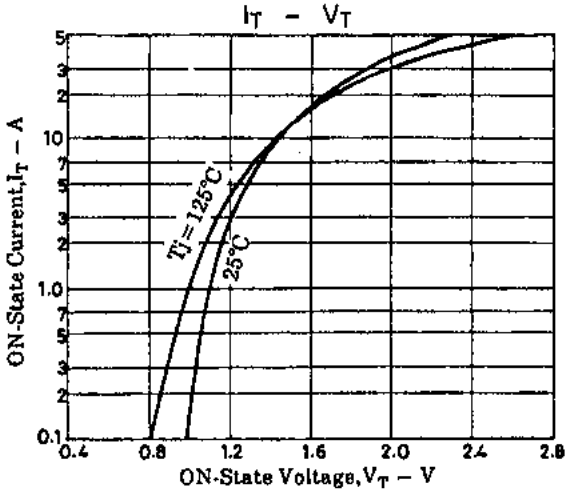
Absolute Maximum Ratings at Ta = 25°C

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, Tc=83°C	→	8	A
Surge ON-State Current	I_{TSM}	Peak 1 cycle, 50Hz	→	80	A
Amperes Squared-Seconds	$\int i^2T \cdot dt$	1ms≤t≤10ms	→	32	A^2S
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	Tj		→	125	°C
Storage Temperature	Tstg		→	−40 to +125	°C
Weight			→	1.7	g

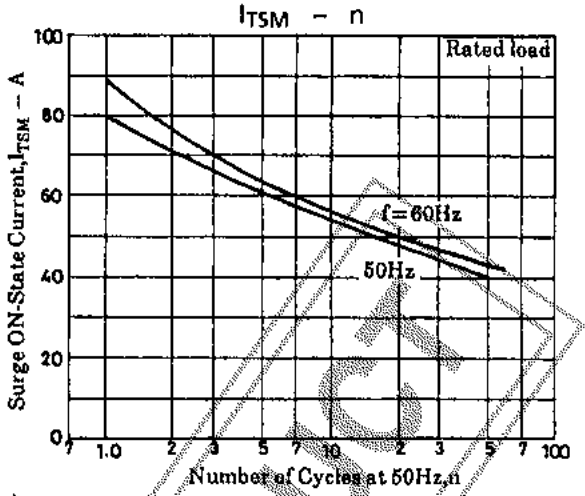
Electrical Characteristics at Ta = 25°C

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}=12A			1.5	V
Critical Rate of Rise of Commutating OFF-State Voltage	(dv/dt)C	V_D=400V, Tj=125°C	4			V/μs
Holding Current	I_H	I_{TM}=1A, V_D=12V			50	mA
Gate Trigger Current* (I)	I_{GT}	V_D=12V, R_L=20Ω			20	mA
Gate Trigger Current (II)	I_{GT}	V_D=12V, R_L=20Ω			20	mA
Gate Trigger Current (III)	I_{GT}	V_D=12V, R_L=20Ω		30		mA
Gate Trigger Current (IV)	I_{GT}	V_D=12V, R_L=20Ω			20	mA
Gate Trigger Voltage* (I)	V_{GT}	V_D=12V, R_L=20Ω			1.5	V
Gate Trigger Voltage (II)	V_{GT}	V_D=12V, R_L=20Ω			1.5	V
Gate Trigger Voltage (III)	V_{GT}	V_D=12V, R_L=20Ω		1.0		V
Gate Trigger Voltage (IV)	V_{GT}	V_D=12V, R_L=20Ω			1.5	V
Gate Nontrigger Voltage	V_{GD}	Tc=125°C, $V_D=V_{DRM}$	0.2			V
Thermal Resistance	Rth(j-c)	AC			3.6	°C/W

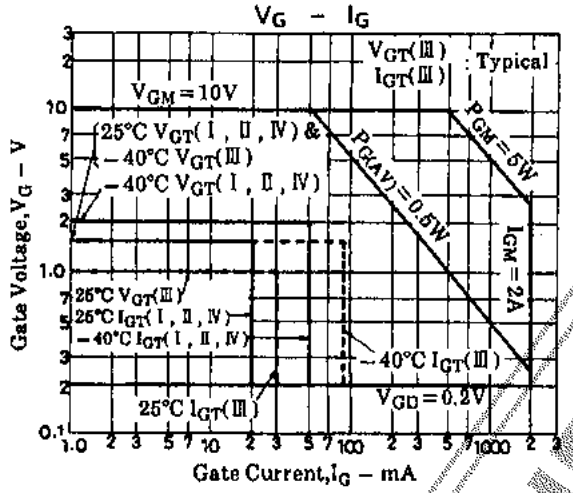
$I_T - V_T$



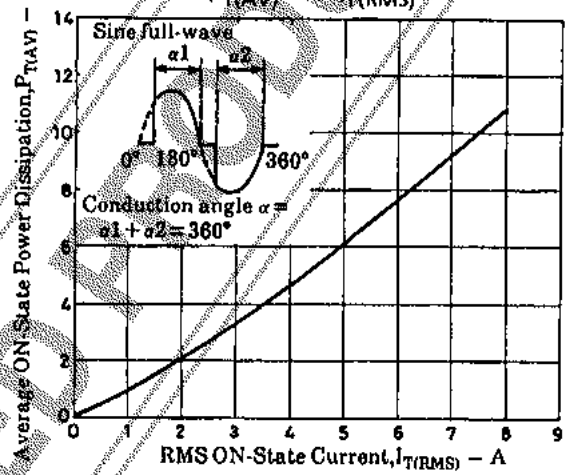
$I_{TSM} - n$



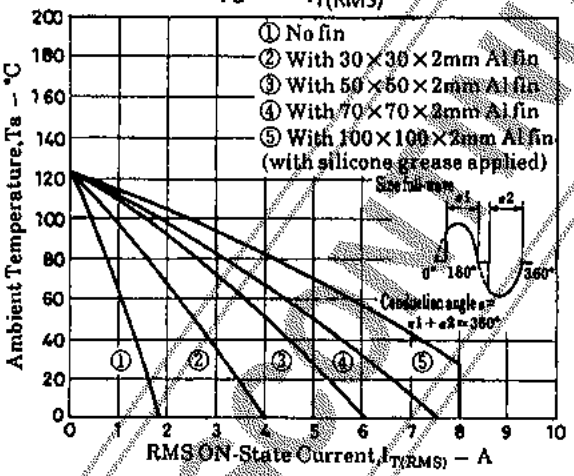
$V_G - I_G$



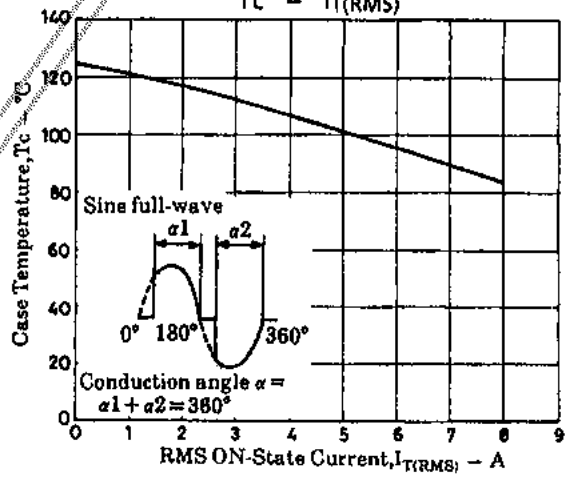
$P_{T(AV)} - I_{T(RMS)}$



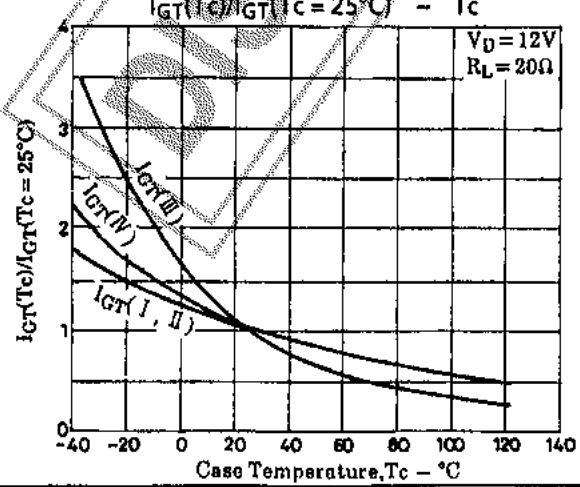
$Ta - I_{T(RMS)}$



$Tc - I_{T(RMS)}$



$I_{GT}(Tc)/I_{GT}(Tc=25°C) - Tc$



$V_{GT}(Tc)/V_{GT}(Tc=25°C) - Tc$