

SANYO	No.1883B	DTC 12-N
		Silicon Planar Type
12A Bidirectional Thyristor		

Features

- Peak OFF-state voltage : 200 to 600V
- RMS ON-state current : 12A
- TO-220 package

Absolute Maximum Ratings at Ta = 25°C

		DTC 12C-N	DTC 12E-N	DTC 12G-N	unit
Repetitive Peak OFF-State Voltage	V_{DRM}	200	400	600	V
RMS ON-State Current	$I_{T(RMS)}$	→	→	12	A
Surge ON-State Current	I_{TSM}	→	→	120	A
Amperes Squared-Seconds	$\int i^2 T \cdot dt$	→	→	72	A ² s
Peak Gate Power Dissipation	P_{GM}	→	→	5	W
Average Gate Power Dissipation	$P_{G(AV)}$	→	→	0.5	W
Peak Gate Current	I_{GM}	→	→	±2	A
Peak Gate Voltage	V_{GM}	→	→	±10	V
Junction Temperature	T_j	→	→	125	°C
Storage Temperature	T_{stg}	→	-40 to +125		°C
Weight		→	→	1.8	g

$T_c = 98^\circ\text{C}$, single-phase full-wave Peak 1 cycle, 50Hz
 $1\text{ms} \leq t \leq 10\text{ms}$
 $f \geq 50\text{Hz}, \text{duty} \leq 10\%$
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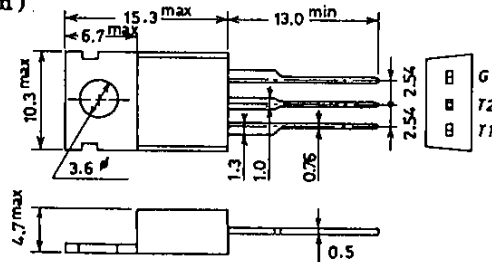
Electrical Characteristics at Ta = 25°C

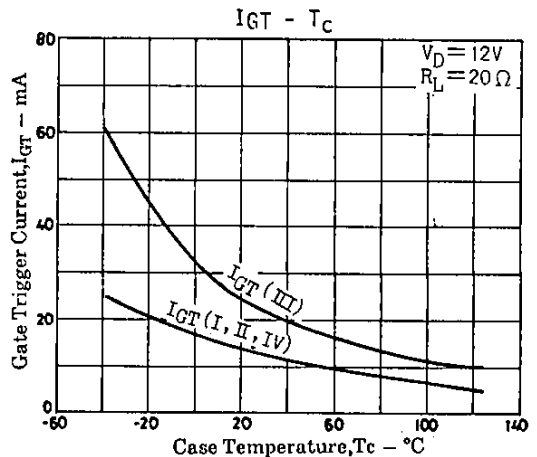
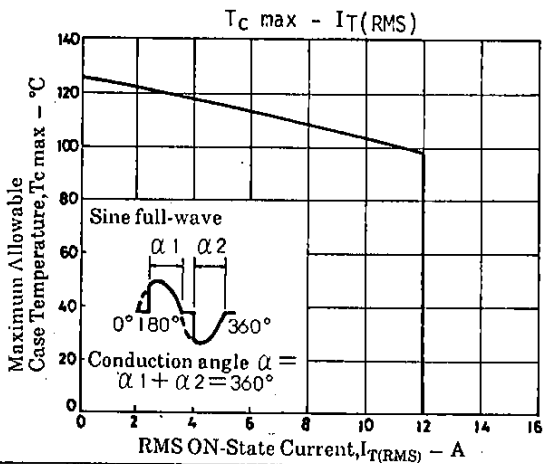
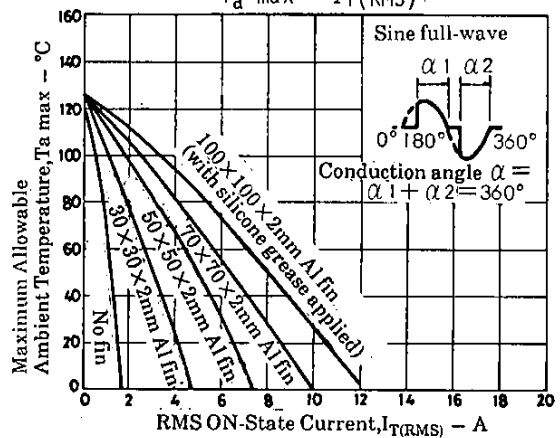
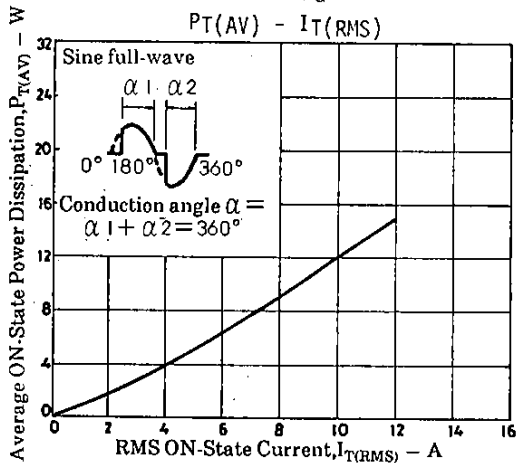
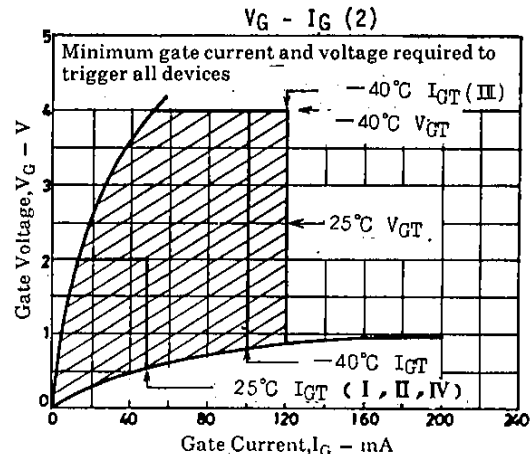
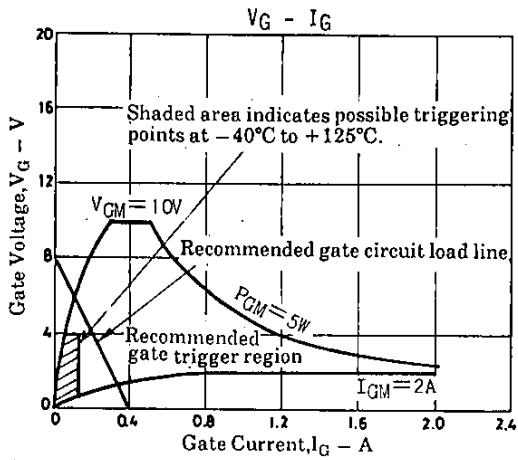
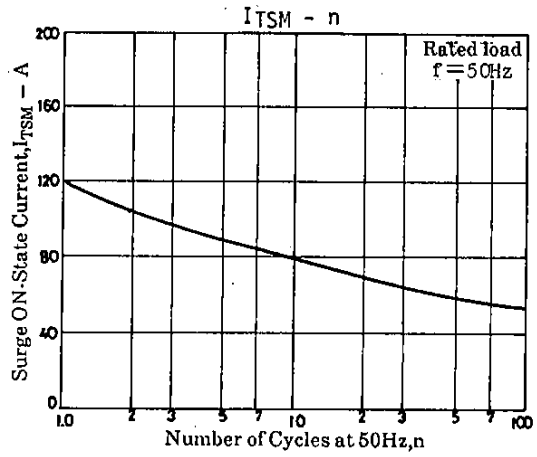
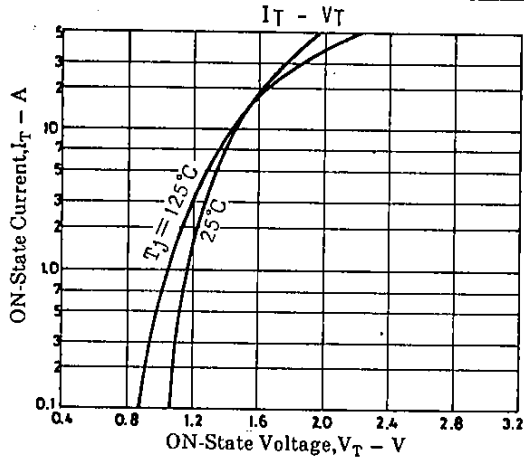
			min	typ	max	unit
Repetitive Peak OFF-State Current	I_{DRM}	$T_j = 125^\circ\text{C}, V_D = V_{DRM}$			2	mA
Peak ON-State Voltage	V_{TM}	$I_{TM} = 17\text{A}$			1.5	V
Critical Rate of Rise of OFF-State Voltage	$(dv/dt)_C$	$\left\{ \begin{array}{l} T_j = 125^\circ\text{C}, V_D = 200\text{V(C)}, \\ 400\text{V(E to G)} \end{array} \right.$	10			V/μs
Holding Current	I_H	$R_L = 100\Omega$			50	mA
Gate Trigger Current (I)	I_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			30	mA
(II)	I_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			30	mA
(III)	I_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			50	mA
(IV)	I_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			30	mA
Gate Trigger Voltage (I)	V_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			2	V
(II)	V_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			2	V
(III)	V_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			2	V
(IV)	V_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			2	V
Gate Nontrigger Voltage	V_{GD}	$T_c = 125^\circ\text{C}, V_D = V_{DRM}$	0.2			V
Thermal Resistance	$R_{th(j-c)}$	Between junction and case, AC			1.8	°C/W

※ : The gate trigger mode is shown below.

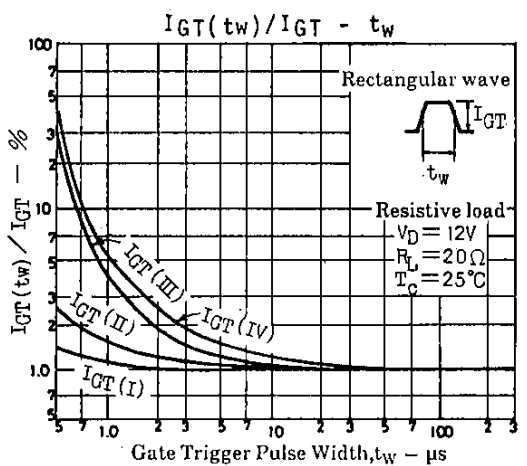
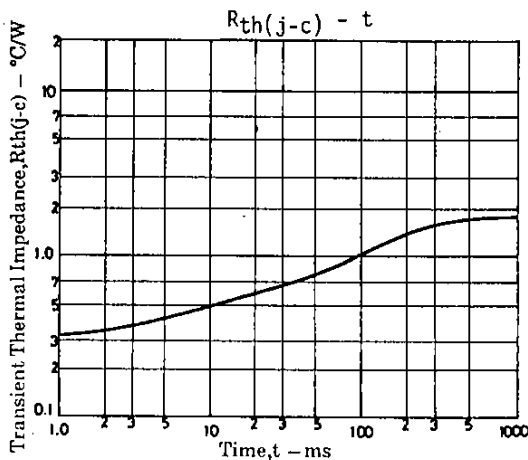
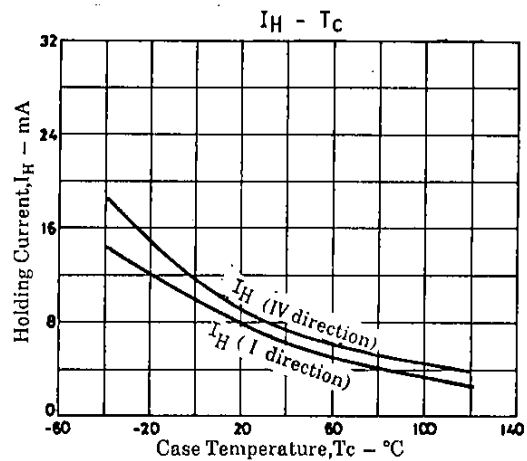
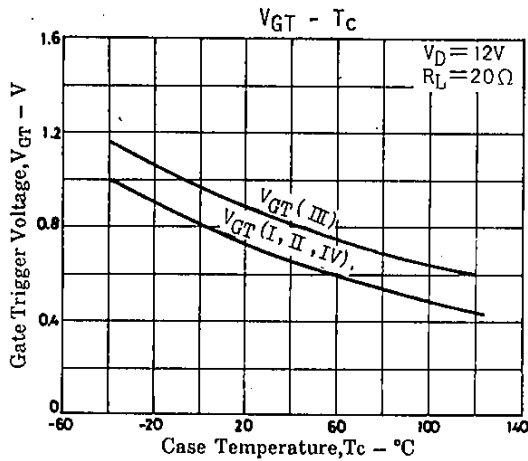
Trigger mode	T2	T1	G
I	+	-	+
II	+	-	-
III	-	+	+
IV	-	+	-

Package Dimensions 1155
(unit: mm)





DTC12-N



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