

	No.1883B	<h1 style="margin: 0;">DTC12-N</h1> <p style="margin: 0;">Silicon Planar Type</p> <h2 style="margin: 0;">12A Bidirectional Thyristor</h2>
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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	$i^2T \cdot dt$	→	→	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

Electrical Characteristics at Ta = 25°C

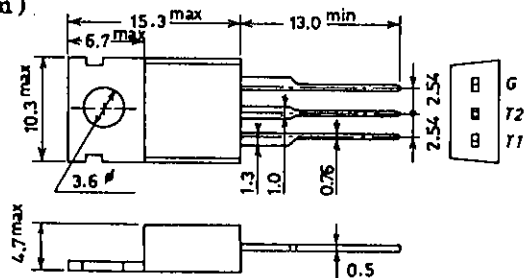
			min	typ	max	unit
Repetitive Peak OFF-State Current	I_{DRM}	$T_j = 125^\circ\text{C}, V_D = V_{DRM}$			2	mA
Peak ON-State Voltage	V_{TM}	$I_{TM} = 17\text{A}$			1.5	V
Critical Rate of Rise of OFF-State Voltage	$(dv/dt)_C$	$T_j = 125^\circ\text{C}, V_D = 200\text{V(C)}, 400\text{V(E to G)}$	10			V/ μs
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)	$V_D = 12\text{V}, R_L = 20\Omega$			30	mA
	(III)	$V_D = 12\text{V}, R_L = 20\Omega$			50	mA
	(IV)	$V_D = 12\text{V}, R_L = 20\Omega$			30	mA
Gate Trigger Voltage (I)	V_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$			2	V
	(II)	$V_D = 12\text{V}, R_L = 20\Omega$			2	V
	(III)	$V_D = 12\text{V}, R_L = 20\Omega$			2	V
	(IV)	$V_D = 12\text{V}, R_L = 20\Omega$			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.

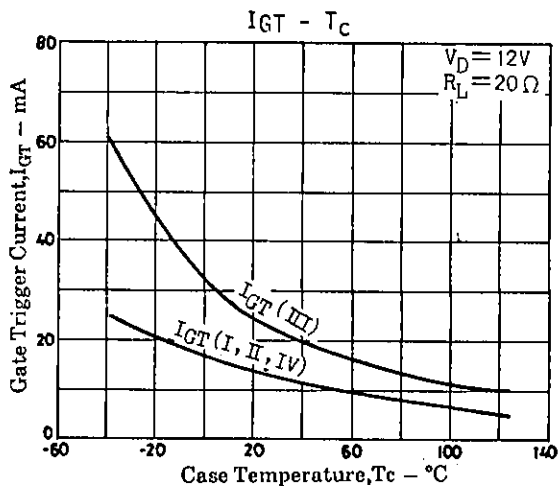
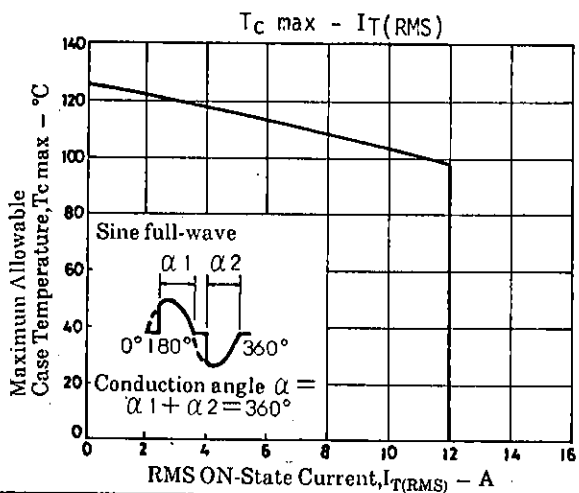
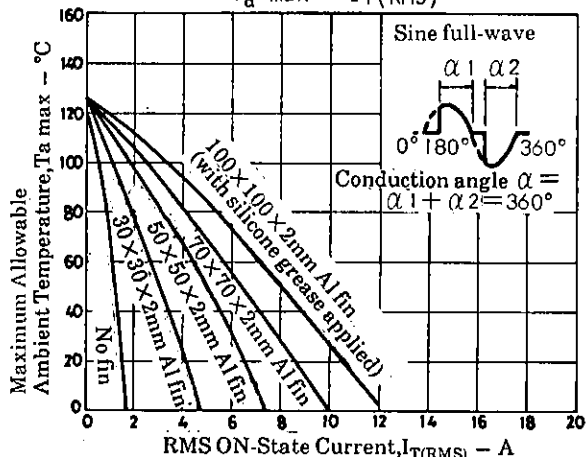
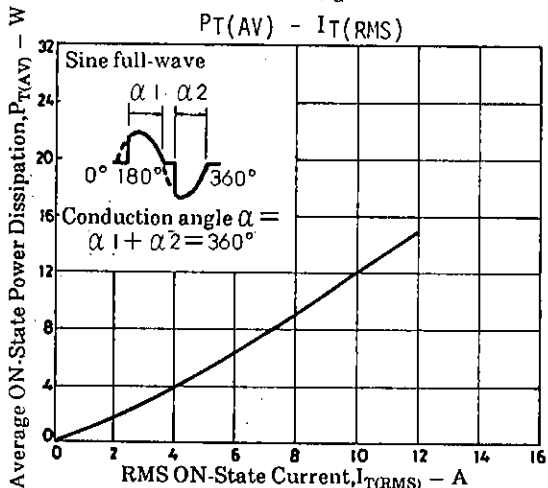
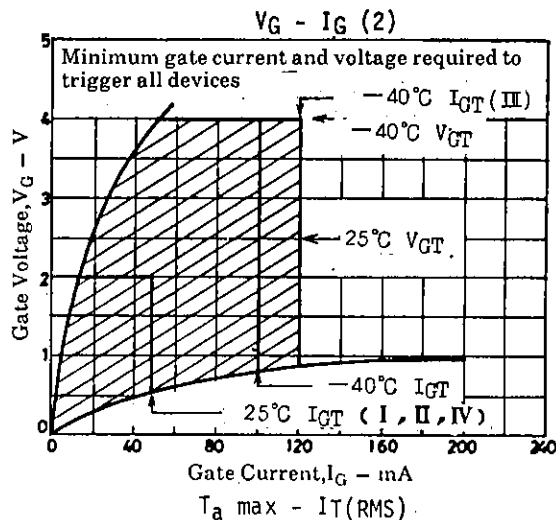
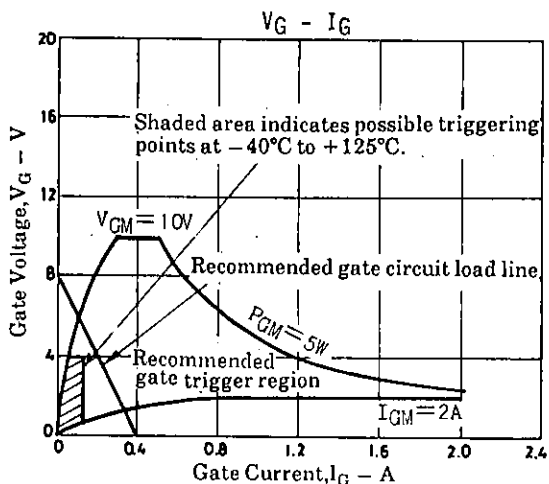
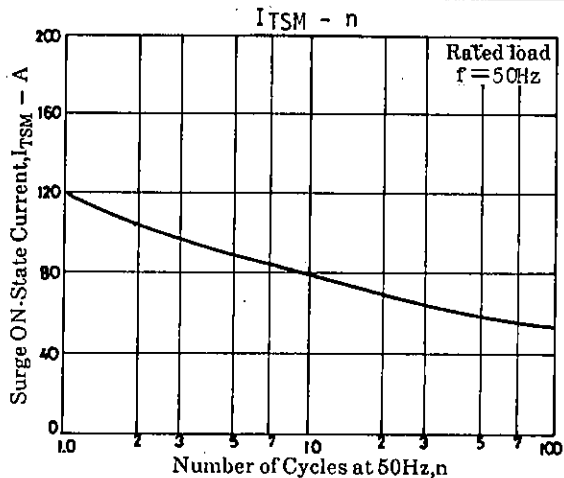
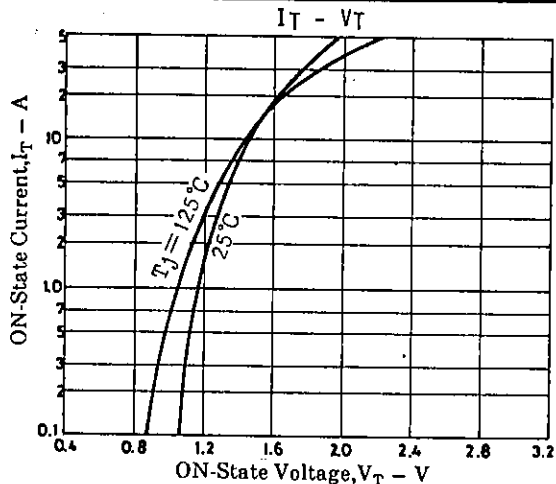
Trigger mode	T2	T1	G
I	+	-	+
II	+	-	-
III	-	+	+
IV	-	+	-

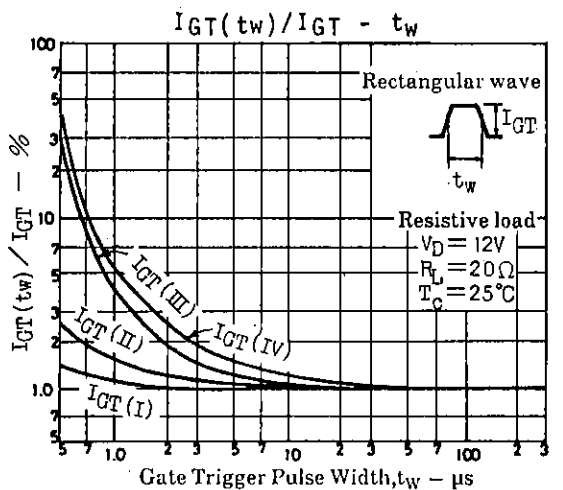
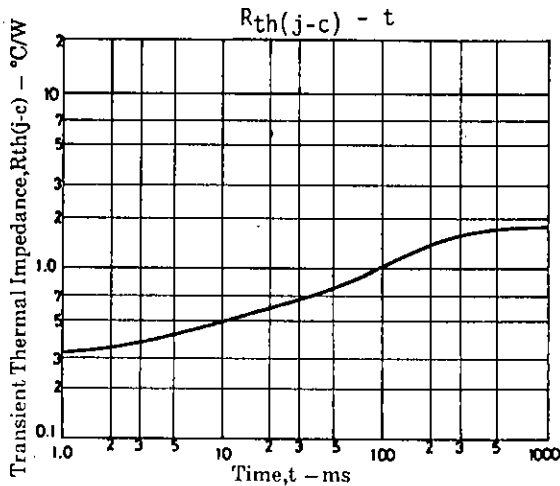
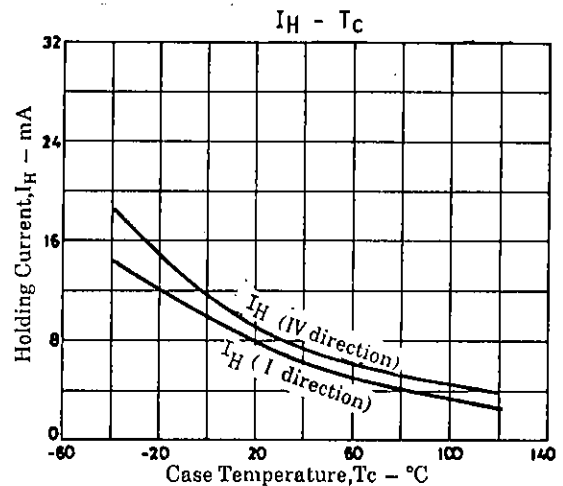
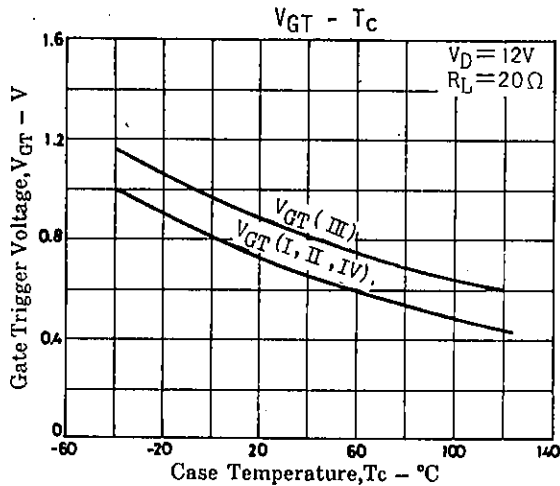
Package Dimensions 1155

(unit: mm)



DTC12-N





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