



DTC8-N

8A Bidirectional Thyristor

Features

- Peak OFF-state voltage : 200 to 600V
- RMS ON-state current : 8A
- TO-220 package.

Absolute Maximum Ratings at Ta=25°C

			DTC8C-N	DTC8E-N	DTC8G-N	unit
Repetitive Peak OFF-State Voltage	V_{DRM}		200	400	600	V
RMS ON-State Current	$I_{T(RMS)}$	Tc=105°C, single-phase full-wave	→	→	8	A
Surge ON-State Current	I_{TSM}	Peak 1 cycle, 50Hz	→	→	80	A
Amperes Squared-Seconds	$\int i^2 T \cdot dt$	1ms ≤ t ≤ 10ms	→	→	32	A ² s
Peak Gate Power Dissipation	P_{GM}	f ≥ 50Hz, duty ≤ 10%	→	→	5	W
Average Gate Power Dissipation	$P_{G(AV)}$		→	→	0.5	W
Peak Gate Current	I_{GM}	f ≥ 50Hz, duty ≤ 10%	→	→	±2	A
Peak Gate Voltage	V_{GM}	f ≥ 50Hz, duty ≤ 10%	→	→	±10	V
Junction Temperature	Tj		→	→	125	°C
Storage Temperature	Tstg			→	-40 to +125	°C
Weight			→	→	1.8	g

Electrical Characteristics at Ta=25°C

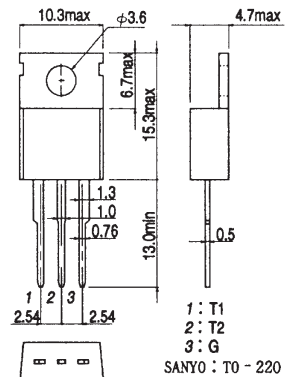
			min	typ	max	unit
Repetitive Peak OFF-State Current	I_{DRM}	Tj=125°C, $V_D = V_{DRM}$			2	mA
Peak ON-State Voltage	V_{TM}	$I_{TM} = 12A$			1.5	V
Critical Rate of Rise of OFF-State Voltage	dv/dt	Tj=125°C, $V_D = 200V$ (C), 400V (E to G)	10			V/μs
Holding Current	I_H	$R_L = 100\Omega$			50	mA
Gate Trigger Current* (I)	I_{GT}	$V_D = 12V, R_L = 20\Omega$			30	mA
(II)	I_{GT}	$V_D = 12V, R_L = 20\Omega$			30	mA
(III)	I_{GT}	$V_D = 12V, R_L = 20\Omega$			50	mA
(IV)	I_{GT}	$V_D = 12V, R_L = 20\Omega$			30	mA
Gate Trigger Voltage* (I)	V_{GT}	$V_D = 12V, R_L = 20\Omega$			2	V
(II)	V_{GT}	$V_D = 12V, R_L = 20\Omega$			2	V
(III)	V_{GT}	$V_D = 12V, R_L = 20\Omega$			2	V
(IV)	V_{GT}	$V_D = 12V, R_L = 20\Omega$			2	V
Gate Nontrigger Voltage	V_{GD}	Tc=125°C, $V_D = V_{DRM}$	0.2			V
Thermal Resistance	Rth(j-c)	Between junction and case, AC			2	°C/W

* : The gate trigger mode is shown below.

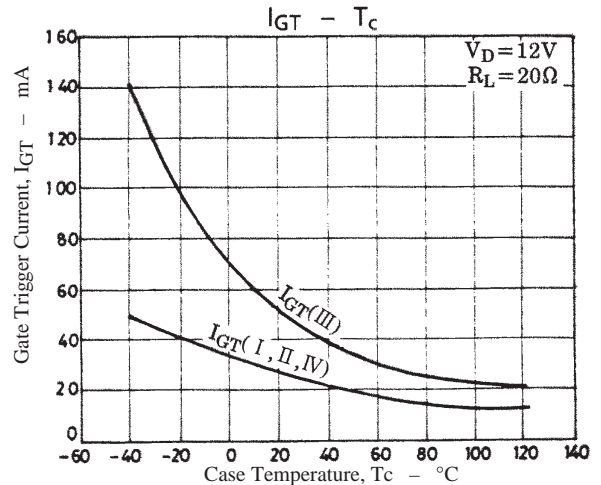
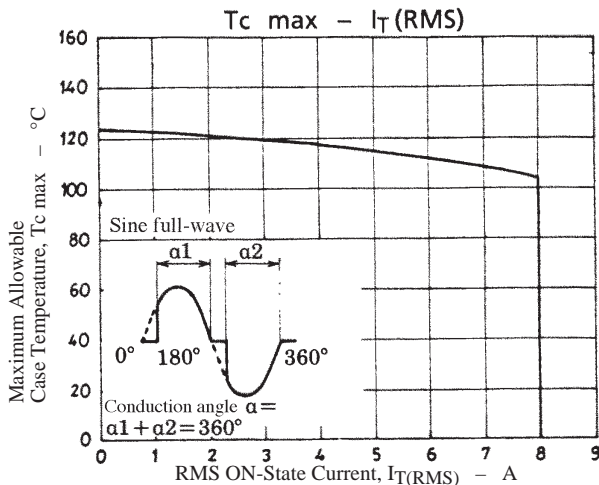
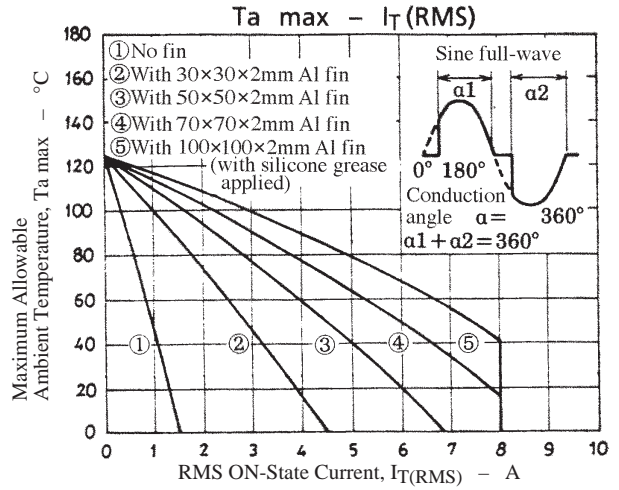
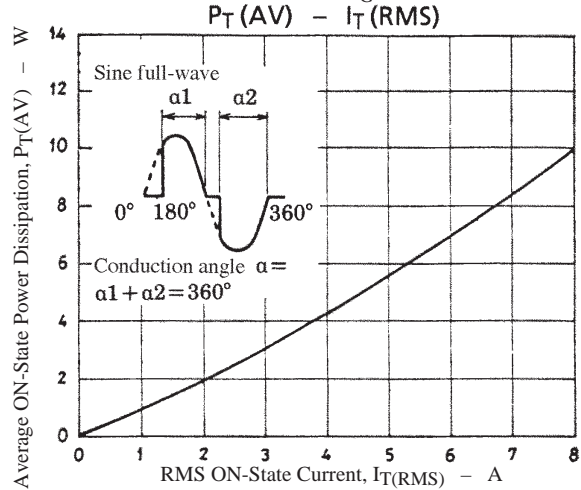
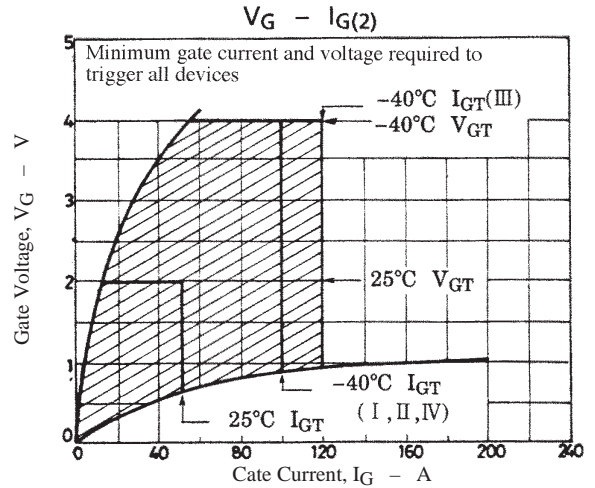
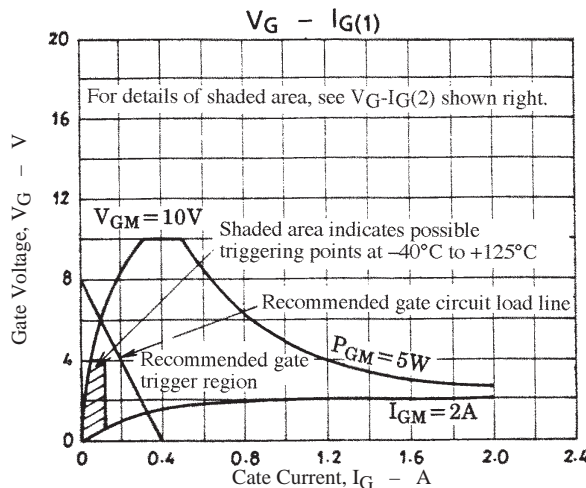
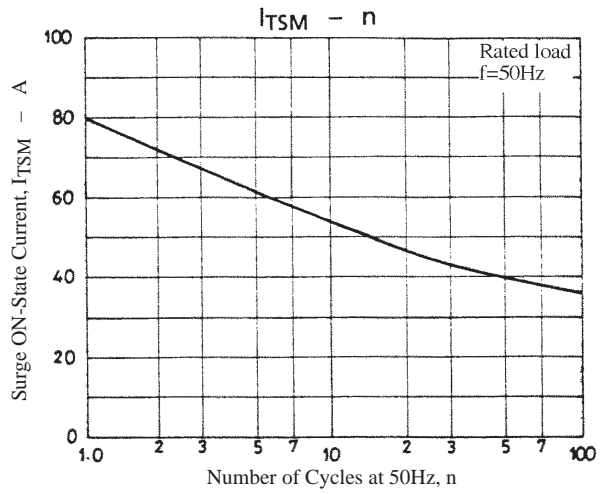
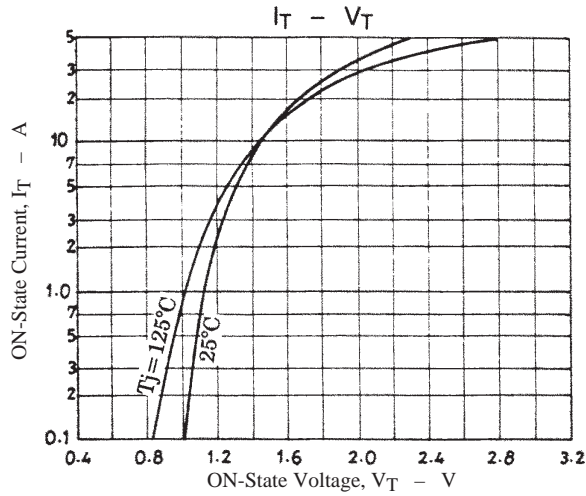
Trigger mode	T2	T1	G
I	+	-	+
II	+	-	-
III	-	+	+
IV	-	+	-

Package Dimensions 1155A

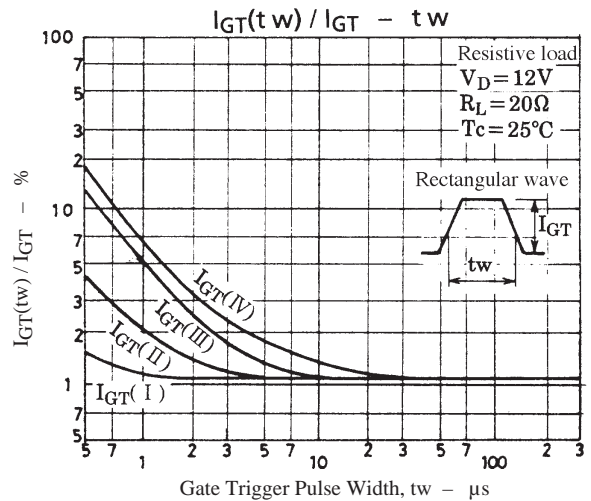
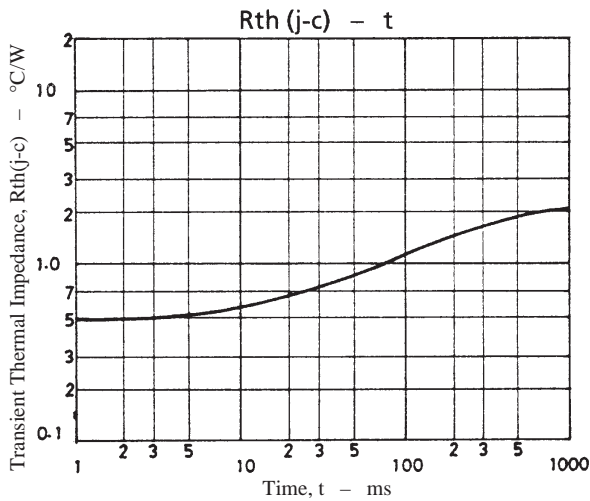
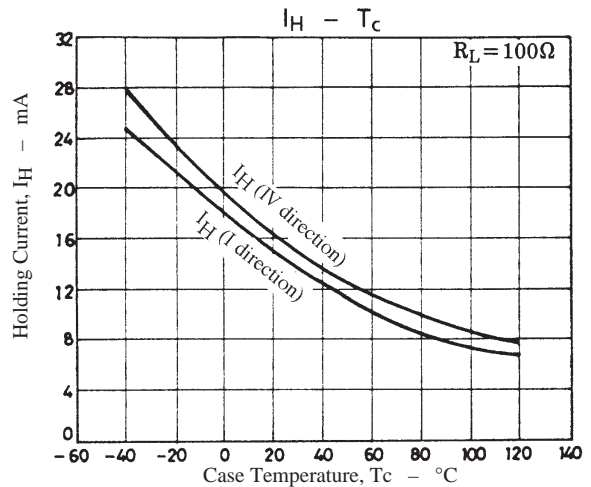
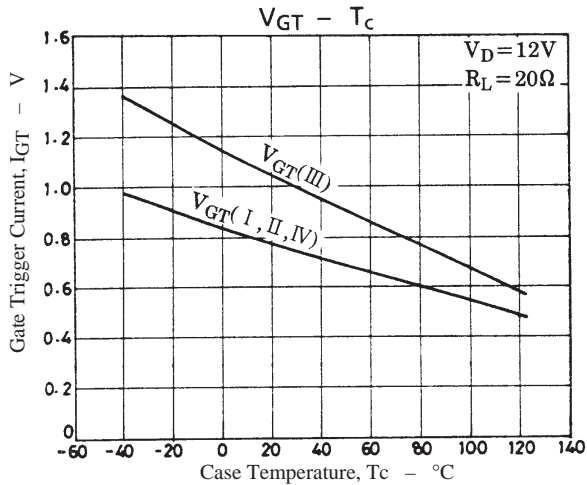
(unit : mm)



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