

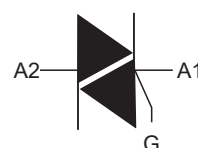
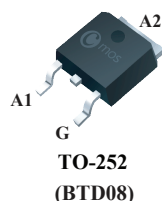
General Description

The BTD08 triac family are high performance glass passivated PNPN devices. These parts are suitable for general purpose applications where gate high sensitivity is required.

Applications

- General purpose low power motor control
- Home appliances

TO-252 Pin Configuration



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Rating	Units
$I_{T(RMS)}$	RMS on-state current (360° conduction angle)	($T_c=90^\circ\text{C}$)	8	A
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = 25°C)	$t_p=16.7\text{ms}$	75	A
		$t_p=20\text{ms}$	69	
I_{2t}	I_{2t} value	$t_p=10\text{ms}$	30	A2s
di/dt	Critical rate of rise of on-state current Gate supply: $I_g \geq 2 \times I_{GT}$, $t_r \leq 100\text{ns}$	$F = 120\text{Hz}$ $T_j = 125^\circ\text{C}$	50	A/ μs
T_{stg} T_j	Storage and operating junction temperature range		- 40 to + 150 - 40 to + 125	$^\circ\text{C}$ $^\circ\text{C}$

Symbol	Parameter	BTD08...				Unit
		400D	600D	700D	800D	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage	400	600	700	800	V

Thermal resistances

Symbol	Parameter	Value	Unit
Rth (j-a)	Junction to ambient	70	°C/W
Rth (j-c) AC	Junction to case	1.6	°C/W

S = Copper surface under tab

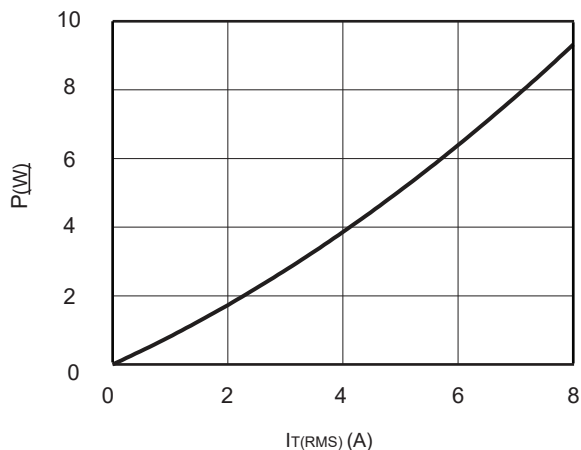
Electrical characteristics

Symbol	Test Conditions	Quadrant		Value	Unit
I _{GT}	V _D =12V (DC) R _L =100Ω, T _j =25°C	I	MAX	50	mA
		II	MAX	50	
		III	MAX	50	
		IV	MAX	70	
V _{GT}	V _D =12V (DC) R _L =30Ω, T _j =25°C	I-II-III-IV	MAX	1.3	V
V _{GD}	V _D =V _{DRM} R _L =3.3kΩ, T _j =125°C	I-II-III-IV	MIN	0.2	V
I _L	I _G =1.2 I _{GT} , T _j =25°C	I	MAX	50	mA
		II	MAX	100	
		III	MAX	50	
		IV	MAX	50	
I _H *	I _T = 100mA gate open, T _j =25°C		MAX	50	mA
V _{TM} *	I _{TM} = 22.5A, t _p = 380μs, T _j =25°C		MAX	1.7	V
I _{DRM}	V _{DRM} Rated, T _j =25°C		MAX	0.02	mA
I _{RRM}	V _{RRM} Rated, T _j =125°C		MAX	1	
dV/dt *	Linear slope up to V _D =67%V _{DRM} gate open, T _j =125°C		MIN	1000	V/μs
(dV/dt) _c *	Without snubber, T _j =125°C		MIN	7	V/ms

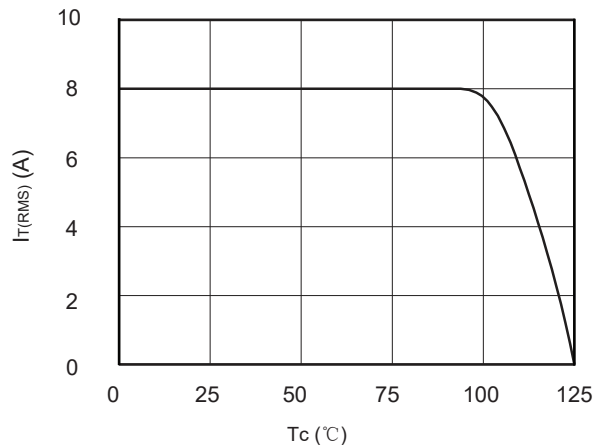
* For either polarity of electrode A2 voltage with reference to electrode A1.

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Cmos assumes no liability for customers' product design or applications.
Cmos reserves the right to improve product design, functions and reliability without notice.

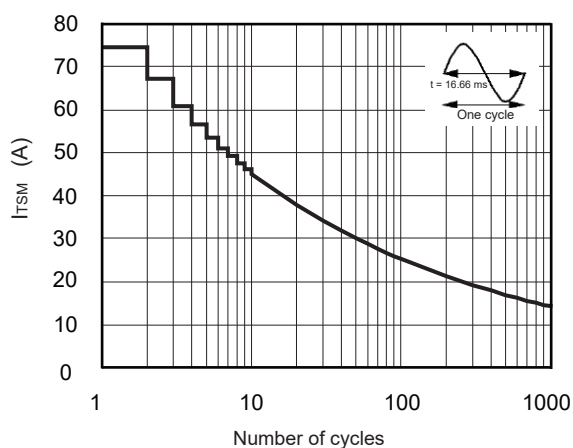
Typical Characteristics



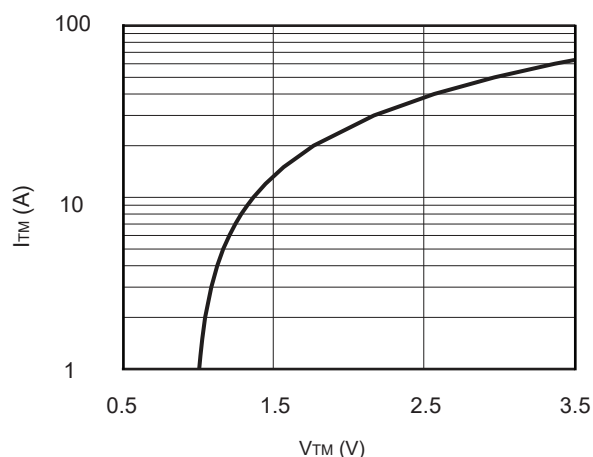
Maximum power dissipation versus RMS on-state current



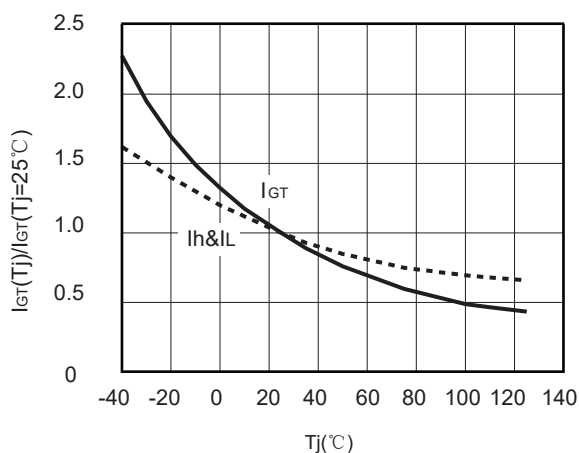
RMS on-state current versus case temperature



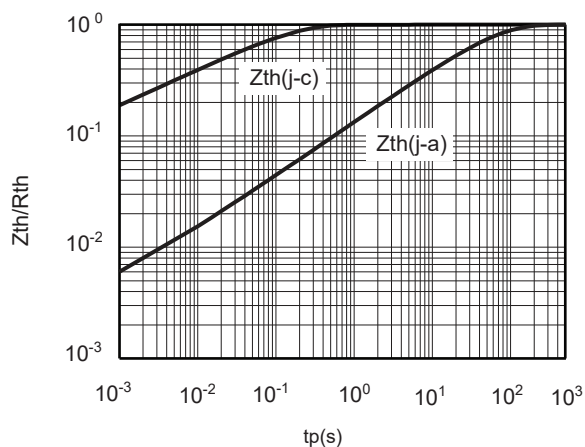
Surge peak on-state current versus number of cycles



On-state characteristics (maximum values).



Relative variation of gate trigger current and holding current versus junction temperature.



Relative variation of thermal impedance versus pulse duration.