

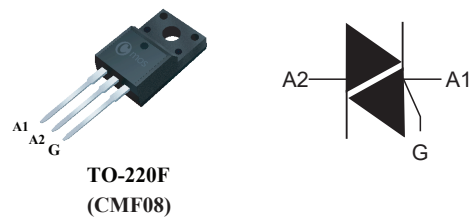
General Description

The CMF08 triac family are high performance glass passivated PNP 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-220F 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	CMF08...				Unit
		400	600	700	800	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage	400	600	700	800	V

Thermal resistances

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient	60	$^{\circ}\text{C/W}$
$R_{th(j-c) AC}$	Junction to case	2.5	$^{\circ}\text{C/W}$

S = Copper surface under tab

Electrical characteristics

Symbol	Test Conditions	Quadrant		Value	Unit
I_{GT}	$V_D=12\text{V (DC)} R_L=100\Omega, T_j=25^{\circ}\text{C}$	I	MAX	50	mA
		II	MAX	50	
		III	MAX	50	
		IV	MAX	70	
V_{GT}	$V_D=12\text{V (DC)} R_L=30\Omega, T_j=25^{\circ}\text{C}$	I-II-III-IV	MAX	1.3	V
V_{GD}	$V_D=V_{DRM} R_L=3.3\text{k}\Omega, T_j=125^{\circ}\text{C}$	I-II-III-IV	MIN	0.2	V
I_L	$I_G=1.2 I_{GT}, T_j=25^{\circ}\text{C}$	I	MAX	50	mA
		II	MAX	100	
		III	MAX	50	
		IV	MAX	50	
I_H^*	$I_T=100\text{mA gate open}, T_j=25^{\circ}\text{C}$		MAX	50	mA
V_{TM}^*	$I_{TM}=12\text{A}, t_p=380\mu\text{s}, T_j=25^{\circ}\text{C}$		MAX	1.7	V
I_{DRM}	V_{DRM} Rated, $T_j=25^{\circ}\text{C}$		MAX	0.02	mA
I_{RRM}	V_{RRM} Rated, $T_j=125^{\circ}\text{C}$		MAX	1	
dV/dt^*	Linear slope up to $V_D=67\%V_{DRM}$ gate open, $T_j=125^{\circ}\text{C}$		MIN	1000	V/ μs
$(dV/dt)_c^*$	Without snubber, $T_j=125^{\circ}\text{C}$		MIN	7	V/ms

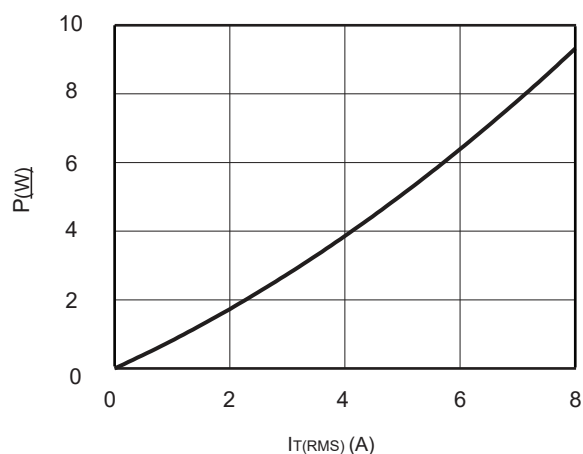
* For either polarity of electrode A2 voltage with reference to electrode A1.

This product has been designed and qualified for the consumer market.

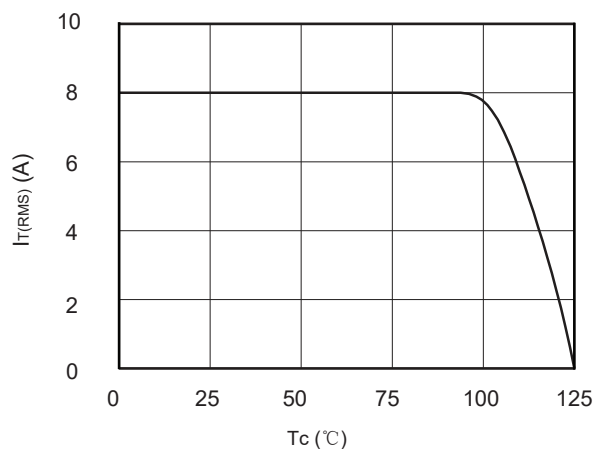
Cmos assumes no liability for customers' product design or applications.

Cmos reserves the right to improve product design, functions and reliability without notice.

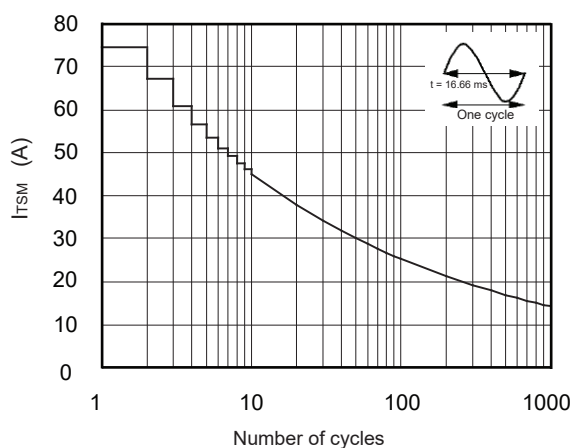
Typical Characteristics



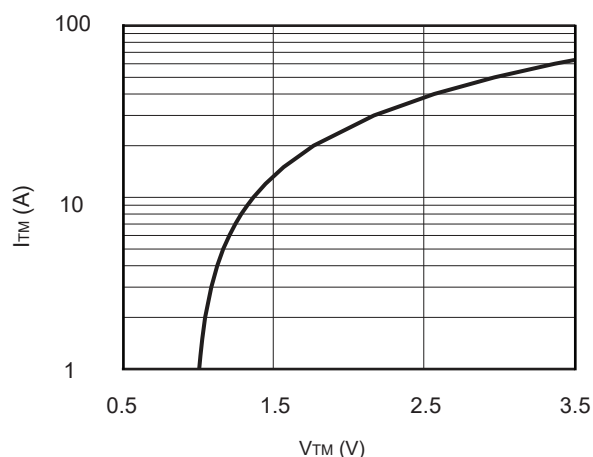
Maximum power dissipation versus RMS on-state current



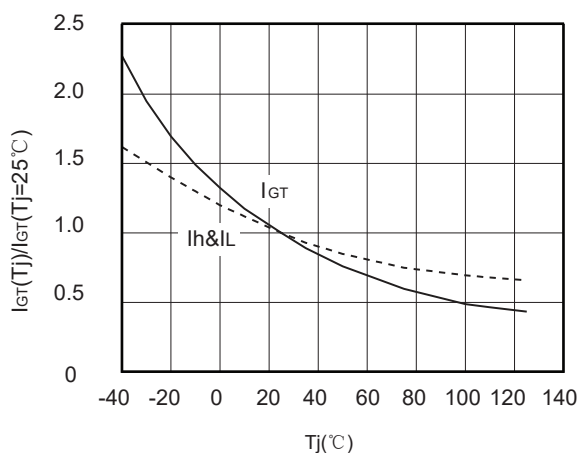
RMS on-state current versus case temperature



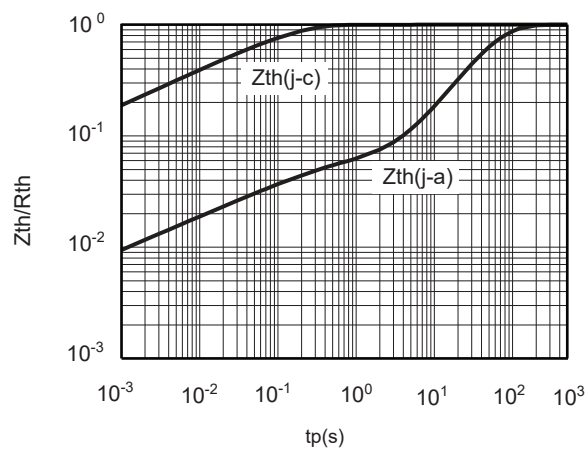
Surge peak on-state current versus number of cycles



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.

