CMF08

STANDARD TRIACS

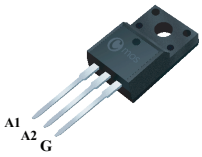
General Description

The CMF08 triac family are high performance glass passivated PNPN devices. These parts are suitables for general purpose applications where gate high sensitivity is required.

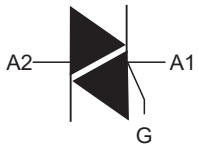
Applications

- General purpose low power motor control
- Home appliances

TO-220F Pin Configuration



TO-220F
(CMF08)



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Rating	Units
$I_{T(RMS)}$	RMS on-state current (360°conduction angle)	(Tc=90℃)	8	A
I_{TSM}	Non repetitive surge peak on-state current (Tj initial = 25℃)	tp=16.7ms	75	A
		tp=20ms	69	
I2t	I2t value	tp=10ms	30	A2s
dI/dt	Critical rate of rise of on-state current Gate supply:IG 2xIGT,tr≤100ns	F = 120Hz Tj =125℃	50	A/μs
T_{stg} T_j	Storage and operating junction temperature range		- 40 to + 150 - 40 to + 125	℃ ℃

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
Rth (j-a)	Junction to ambient	60	℃/W
Rth (j-c) AC	Junction to case	2.5	℃/W

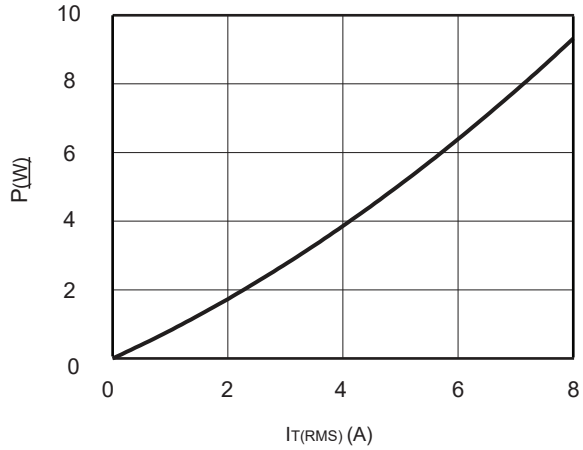
S = Copper surface under tab

Electrical characteristics

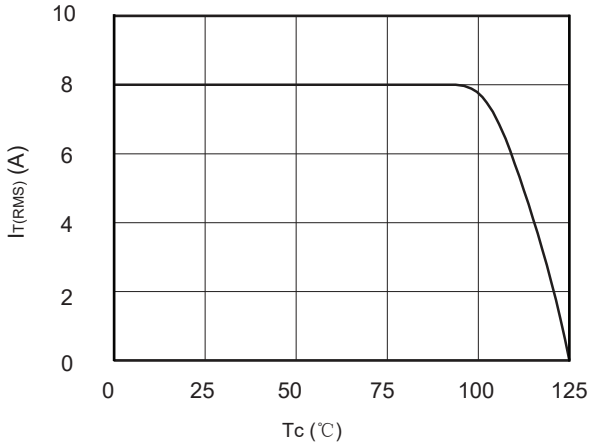
Symbol	Test Conditions	Quadrant		Value	Unit
I_{GT}	V_D=12V (DC) R_L=100Ω, Tj=25℃	I	MAX	50	mA
		II	MAX	50	
		III	MAX	50	
		IV	MAX	70	
V_{GT}	V_D=12V (DC) R_L=30Ω , Tj=25℃	I-II-III-IV	MAX	1.3	V
V_{GD}	V_D=V_{DRM} R_L=3.3kΩ, Tj=125℃	I-II-III-IV	MIN	0.2	V
I_L	I_G=1.2 I_{GT}, Tj=25℃	I	MAX	50	mA
		II	MAX	100	
		III	MAX	50	
		IV	MAX	50	
I_H *	I_T= 100mA gate open,Tj=25°C		MAX	50	mA
V_{TM} *	I_{TM}= 12A , tp= 380μs, Tj=25°C		MAX	1.7	V
I_{DRM}	V_{DRM} Rated，Tj=25°C		MAX	0.02	mA
I_{RRM}	V_{RRM} Rated，Tj=125°C		MAX	1	
dV/dt *	Linear slope up to VD=67%VDRM gate open ，Tj=125°C		MIN	1000	V/μs
(dV/dt)c*	Without snubber ，Tj=125°C		MIN	7	V/ms

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

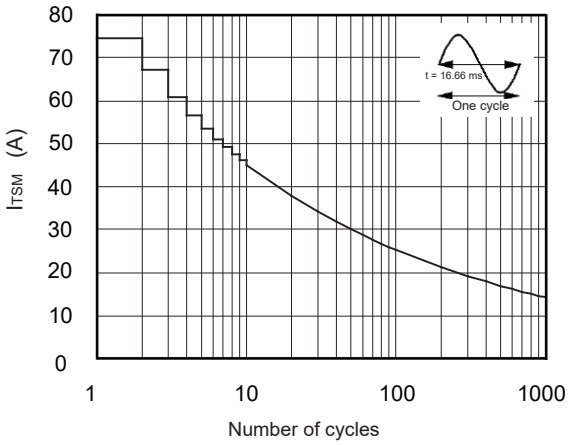
Typical Characteristics



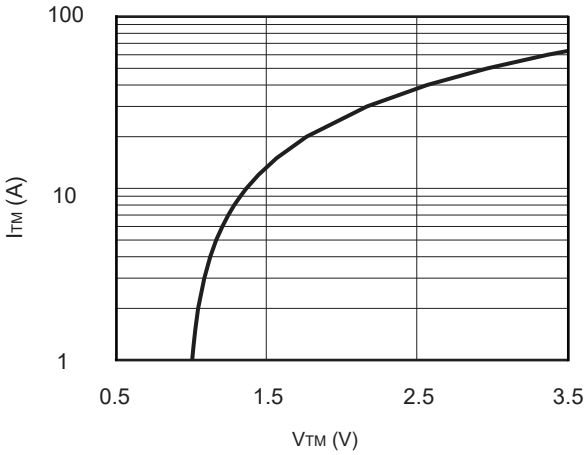
Maximum power dissipation versus RMS on-state current



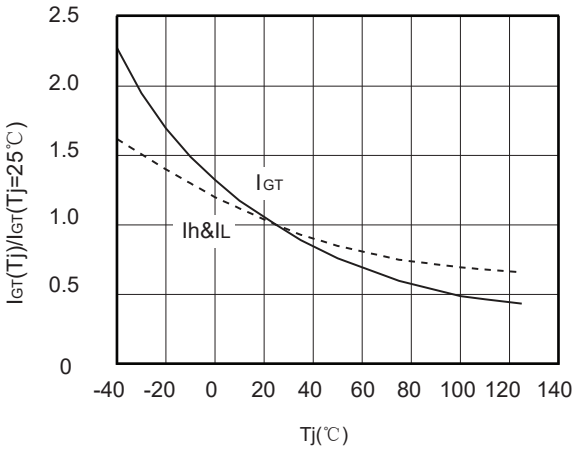
RMS on-state current versus case temperature



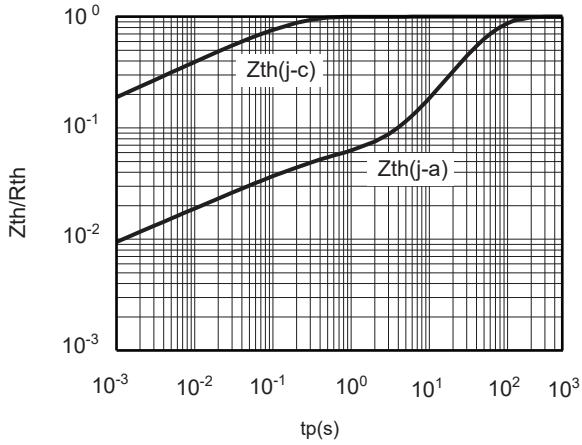
Surge peak on-state current versus number of cycles



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.