

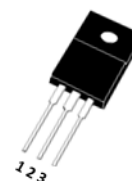
DC08F800CTR

DC08F800CTR 8A TRIAC

DESCRIPTION :

- 3Q technology for improved noise immunity
- 2500 V RMS isolation voltage capability
- High commutation capability with maximum false trigger immunity
- High immunity to false turn-on by dV/dt
- High junction operating temperature capability
- Internally insulated package

V_{DRM}/V_{RRM}	800 V
$I_{T(RMS)}$	8A
$I_{GT \text{ I / II / III}}$	35/35/35 mA



ITO-220

MAXIMUM RATINGS ($T_J=25^\circ\text{C}$ unless otherwise specified)

Characteristic	Condition	Symbol	Value	Unit
Repetitive peak off-state voltage	$T_J=25^\circ\text{C}$	V_{DRM}	800	V
Repetitive peak reverse voltage	$T_J=25^\circ\text{C}$	V_{RRM}	800	V
RMS on-state current	$T_c = 80^\circ\text{C}$	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current	$t_p=20\text{ms}$, $f= 50 \text{ Hz}$	I_{TSM}	80	A
I^2t value for fusing	$t_p=10\text{ms}$	I^2t	32	A^2s
Critical rate of rise of on-state current	$T_J=125^\circ\text{C}$	di/dt	50	$\text{A}/\mu\text{s}$
Peak gate current	$t_p=20\mu\text{s}$, $T_J=125^\circ\text{C}$	I_{GM}	4	A
Average gate power dissipation	$T_J=125^\circ\text{C}$	$P_{G(AV)}$	1	W
Operation Junction temperature		T_J	$-40\sim+150$	$^\circ\text{C}$
Storage temperature		T_{STG}	$-40\sim+150$	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Condition	Symbol	Typical	Unit
Thermal resistance, junction - case		$R_{th(j-c)}$	2.05	$^\circ\text{C}/\text{W}$



ELECTRICAL CHARACTERISTICS (at $T_J = 25^\circ\text{C}$, unless otherwise specified)

Test Condition	Symbol	Min.	Typ.	Max.	Unit
$V_D = 12\text{V}$, $R_L = 100\Omega$ I - II - III	I_{GT}			35	mA
$V_D = 12\text{V}$, $R_L = 100\Omega$	V_{GT}			1.5	V
$V_D = V_{DRM}$, $T_J = 125^\circ\text{C}$	V_{GD}	0.2			V
$I_T = 500\text{mA}$	I_H			60	mA
$I_G = 1.2 I_{GT}$	I_L			100	mA
$V_D = V_D = 2/3 V_{DRM}$, $T_J = 125^\circ\text{C}$	dV/dt	500			V/us
Without snubber, $T_J = 125^\circ\text{C}$	$(dI/dt)_c$	10			A/ms

STATIC CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
$I_{TM} = 12\text{A}$, $T_J = 25^\circ\text{C}$	V_{TM}			1.60	V
Threshold voltage, $T_J = 125^\circ\text{C}$	V_{TO}			0.86	V
Dynamic resistance, $T_J = 125^\circ\text{C}$	R_D			36.6	m Ω
$V_D = V_{DRM}$, $V_R = V_{RRM}$, $T_J = 25^\circ\text{C}$	I_{DRM}			5	μA
$V_D = V_{DRM}$, $V_R = V_{RRM}$, $T_J = 125^\circ\text{C}$	I_{RRM}			1	mA

ISOLATION CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit
RMS isolation voltage $50\text{ Hz} \leq f \leq 60\text{ Hz}$; $RH \leq 65\%$; $T_h = 25^\circ\text{C}$	$V_{isol(RMS)}$			2500	V

RATINGS AND CHARACTERISTICS CURVES

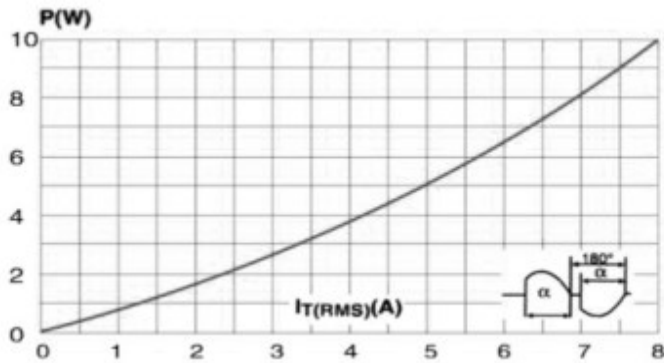


Figure 1. Maximum power dissipation versus RMS on-state current

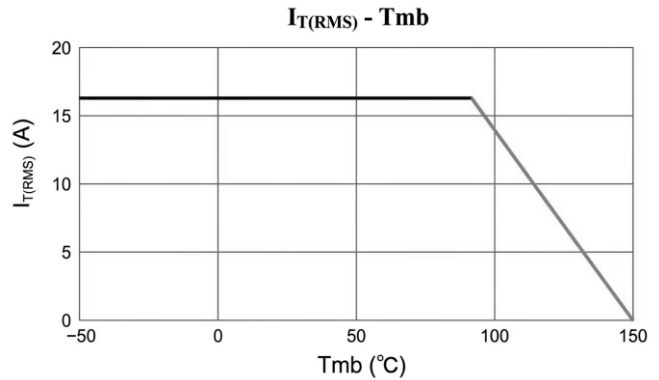


Figure 2. RMS on-state current versus case temperature (full cycle)

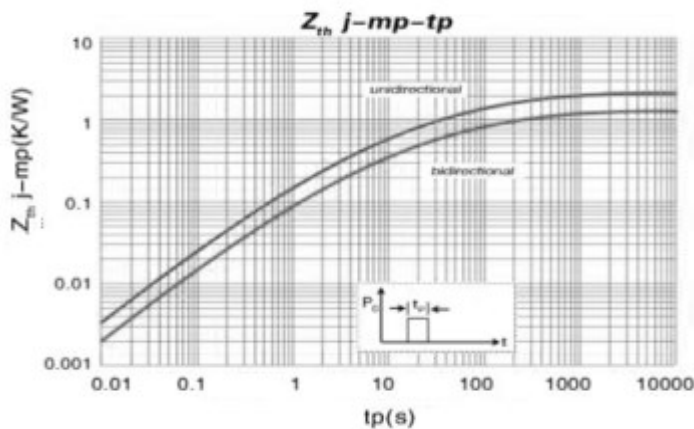


Figure 3. Relative variation of thermal impedance versus pulse

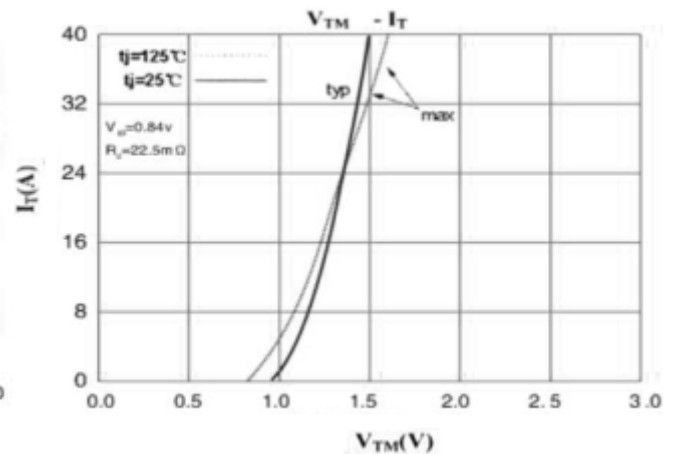


Figure 4. On-state characteristics (maximum values)

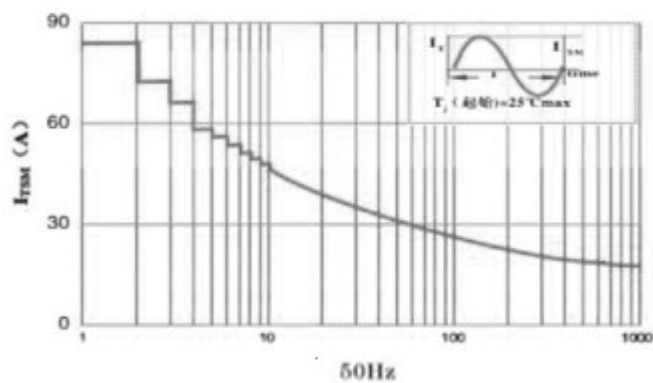


Figure 5. Surge peak on-state current

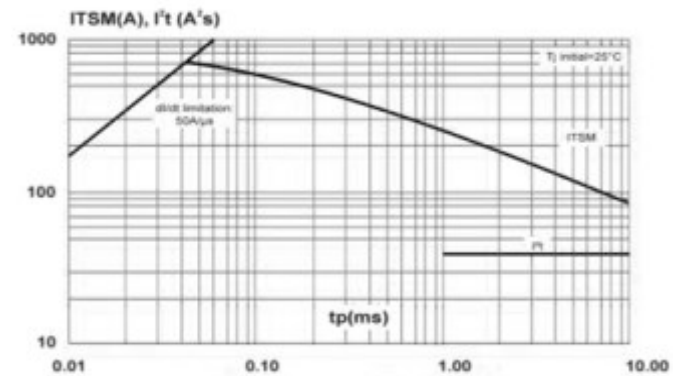


Figure 6. Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10$ ms and corresponding value of I^2t

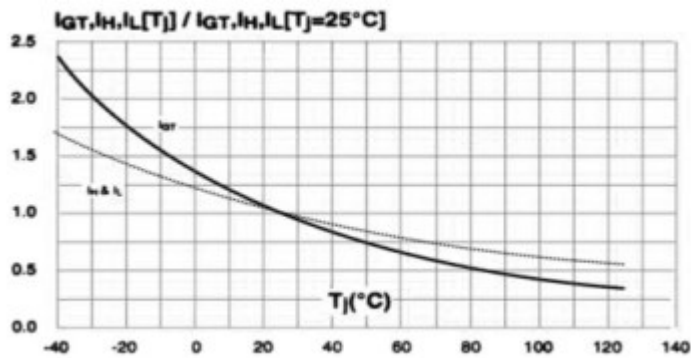
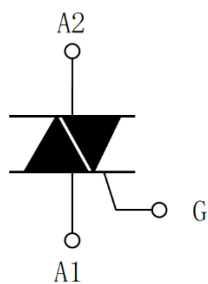


Figure 7. Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values)

• Circuit diagram





- Package outlines : Dimensions in (mm) ± 0.1

