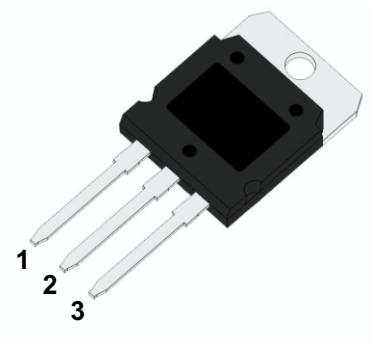
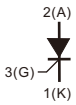
Stansard SCRs, 75A

Main Features

Symbol	Value	Unit
$I_{T(RMS)}$	75	A
V_{DRM}/V_{RRM}	1200~1600	V
I_{GT}	10 to 80	mA



ITO-247 (Insulated)
(75PTxxCI)



DESCRIPTION

The 75PTxxCI of silicon controlled rectifiers are high performance glass passivated technology, and are suitable for general purpose applications, where power handling and power dissipation are critical, such as solid state relay, welding equipment, high power motor control, high power switching, motorcycle, power charger, T-tools and phase control applications.

Base on a clip assembly technology, they offer a superior performance in surge current capabilities.

75PTxxCI provides an insulation voltage of 2500 VRMS from all three pins to external heatsink.

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS		VALUE	UNIT
RMS on-state current full sine wave (180° conduction angle) Lead current limitation	$I_{T(RMS)}$	ITO-247	T_c=85°C	75	A
Average on-state current (180° conduction angle)	$I_{T(AV)}$	ITO-247	T_c=85°C	48	A
Non repetitive surge peak on-state current (full cycle, T_j initial = 25°C)	I_{TSM}	F =50 Hz	t = 20 ms	750	A
		F =60 Hz	t = 16.7 ms	790	
I^2t Value for fusing	I^2t	t_p = 10 ms		2810	A^2s
Critical rate of rise of on-state current V_D = 67% V_{DRM}, t_p = 200µs, I_G = 0.3A d_{IG}/dt = 0.3A/µs	dI/dt	F = 60 Hz	T_J = 125°C	150	A/µs
Peak gate current	I_{GM}	T_p = 20 µs	T_J = 125°C	4	A
Maximum gate power	P_{GM}	T_p =20µs	T_J = 125°C	5	W
Average gate power dissipation	$P_{G(AV)}$	T_j =125°C		1	W
Repetitive peak off-state voltage	V_{DRM}	T_j =125°C		1200~1600	V
Repetitive peak reverse voltage	V_{RRM}				
Storage temperature range	T_{stg}			- 40 to + 150	°C
Operating junction temperature range	T_J			- 40 to + 125	
Maximum peak reverse gate voltage	V_{RGM}			5	V

ELECTRICAL SPECIFICATIONS (T_J = 25 ºC unless otherwise specified)

SYMBOL	TEST CONDITIONS		Value			Unit
			Min.	Typ.	Max.	
I_{GT}	V_D = 12V, R_L = 30Ω		10	-	80	mA
V_{GT}			-	-	1.5	V
V_{GD}	$V_D = V_{DRM}$, R_L = 3.3KΩ, R_{GK} = 220Ω	T_J = 125°C	0.25	-	-	V
I_H	I_T = 1A, Gate open		-	-	120	mA
I_L	$I_G = 1.2 I_{GT}$		-	-	150	mA
dV/dt	V_D = 67% V_{DRM}, Gate open	T_J = 125°C	1000	-	-	V/µs
V_{TM}	I_T = 100A, t_P = 380µs	T_J = 25°C	-	-	1.80	V
I_{DRM} I_{RRM}	$V_D=V_{DRM}$, $V_R=V_{RRM}$ R_{GK} = 220Ω	T_J = 25°C	-	-	50	µA
		T_J = 125°C	-	-	10	mA

THERMAL RESISTANCE (T_J = 25 ºC unless otherwise specified)

SYMBOL	Parameter		VALUE	UNIT
$R_{th(j-c)}$	Junction to case (DC)	ITO-247	0.60	°C/W
$R_{th(j-a)}$	Junction to ambient	ITO-247	40	°C/W

S=Copper surface under tab

PRODUCT SELECTOR

PART NUMBER	VOLTAGE		SENSITIVITY	PACKAGE
	1200 V	1600 V		
75PT12CI	V		80 mA	ITO-247
75PT16CI		V	80 mA	ITO-247

ORDERING INFORMATION

ORDERING TYPE	MARKING	PACKAGE	WEIGHT	BASE Q'TY	DELIVERY MODE
75PTxxCI	75PTxxCI	ITO-247	6.5g	20	Tube

ORDERING INFORMATION SCHEME

75 PT 16 CI

Current
75 = 75A, $I_{T(RMS)}$

SCR series

Voltage Code
16 = 1600V

Package type
CI = ITO-247 insulated

Fig.1 Maximum power dissipation versus RMS on-state current (full cycle)

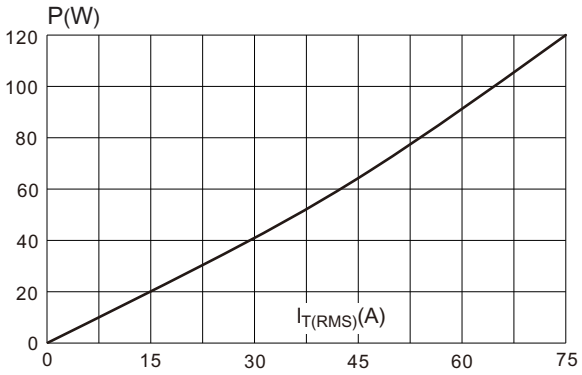


Fig.2 RMS on-state current versus case temperature (full cycle)

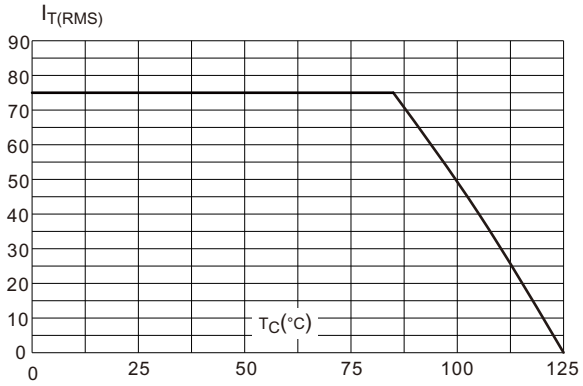


Fig.3 On-state characteristics (maximum values).

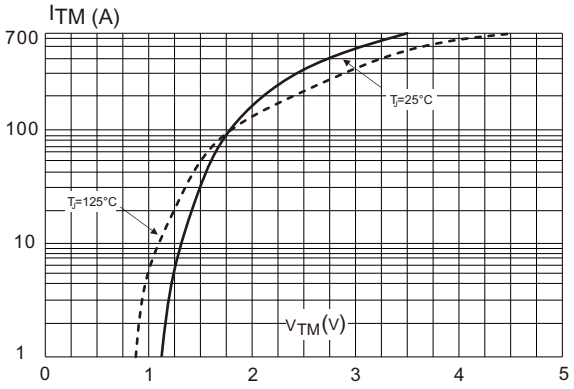


Fig.4 Surge peak on-state current versus number of cycles.

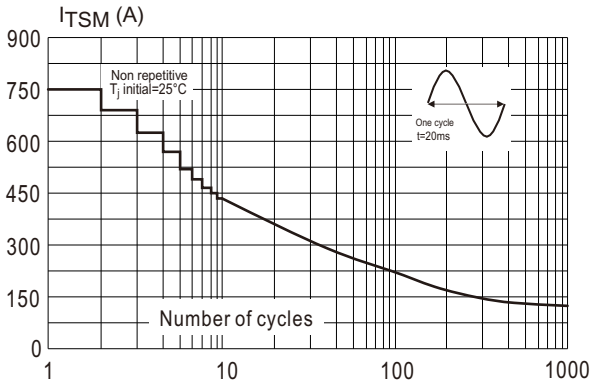


Fig.5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding value of I^2t .

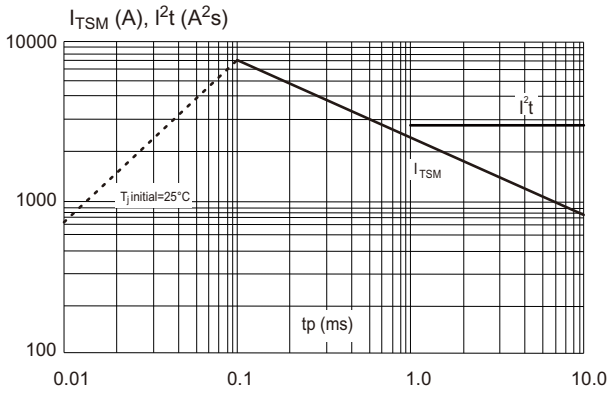
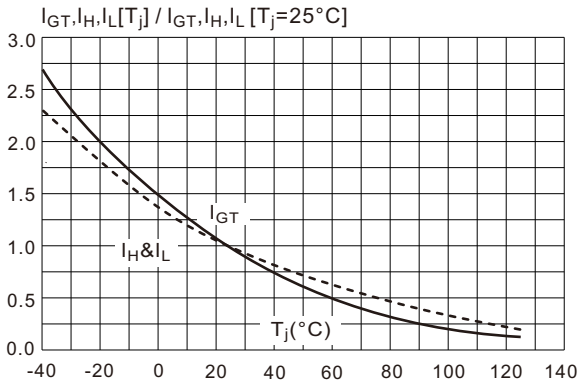
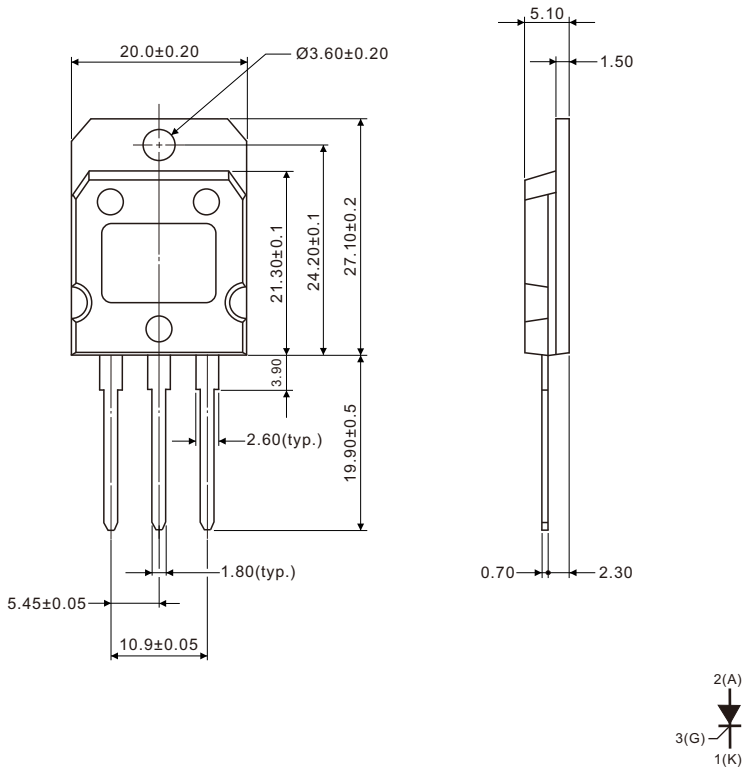


Fig.6 Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Case Style

ITO-247



All dimensions in millimeters