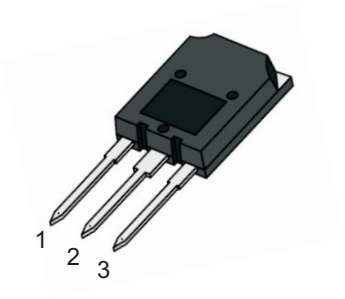
Stansard SCRs, 70A

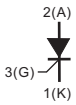
Main Features

Symbol	Value	Unit
$I_{T(RMS)}$	75	A
V_{DRM}/V_{RRM}	800 to 1800	V
I_{GT}	100	mA



TO-247S **(non-Insulated)**

(70PTxxD)



DESCRIPTION

The 70PT series 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 and phase control applications.

Base on a clip assembly technology, they offer a superior performance in surge current capabilities. Thanks to their internal ceramic pad, they provide high voltage insulation(2500V_{RMS}).

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS		VALUE	UNIT
RMS on-state current full sine wave (180° conduction angle) Lead current limitation	$I_{T(RMS)}$	TO-247S	T_c=80°C	75	A
Average on-state current (180° conduction angle)	$I_{T(AV)}$	TO-247S	T_c=80°C	70	A
Non repetitive surge peak on-state current (full cycle, T_j initial = 25°C)	I_{TSM}	F =50 Hz	t = 20 ms	1300	A
		F =60 Hz	t = 16.7 ms	1500	
I^2t Value for fusing	I^2t	t_p = 10 ms		8450	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	2.5	A
Maximum gate power	P_{GM}	T_p =20µs	T_j = 125°C	10	W
Average gate power dissipation	$P_{G(AV)}$	T_j =125°C		2	W
Repetitive peak off-state voltage	V_{DRM}	T_j =125°C		800 to 1800	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			70PT08D	70PT10D / 70PT12D	70PT16D / 70PT18D	Unit
I_{GT}	V_D = 12V, R_L = 33Ω		Max.	50	80	100	mA
V_{GT}			Max.	1.5			V
V_{GD}	$V_D = V_{DRM}$, R_L = 3.3KΩ, R_{GK} = 220Ω	T_j = 125°C	Min.	0.2			V
I_H	I_T = 500mA, Gate open		Max.	120	130	150	mA
I_L	$I_G = 1.2 \times I_{GT}$		Max.	150	180	200	mA
dV/dt	V_D = 67% V_{DRM}, Gate open	T_j = 125°C	Min.	700	1000	1000	V/μs
V_{TM}	I_T = 100A, t_P = 380μs	T_j = 25°C	Max.	1.55			V
I_{DRM} I_{RRM}	$V_D = V_{DRM}$, $V_R = V_{RRM}$ R_{GK} = 220Ω	T_j = 25°C	Max.	50			μA
		T_j = 125°C	Max.	10			mA
V_{to}	Threshold Voltage	T_j = 125°C	Max.	0.85			V
R_d	Dynamic Resistance	T_j = 125°C	Max.	10			mΩ

THERMAL RESISTANCE

SYMBOL	Parameter		VALUE	UNIT
$R_{th(j-c)}$	Junction to case (DC)	TO-247S	0.32	°C/W
$R_{th(j-a)}$	Junction to ambient	TO-247S	45	°C/W

S=Copper surface under tab

PRODUCT SELECTOR

PART NUMBER	VOLTAGE (xx)					SENSITIVITY	PACKAGE
	800 V	1000 V	1200 V	1600 V	1800 V		
70PTxxD	V	V	V	V	V	100 mA	TO-247S

ORDERING INFORMATION

ORDERING TYPE	MARKING	PACKAGE	WEIGHT	BASE Q'TY	DELIVERY MODE
70PTxxD	70PTxxD	TO-247S	6.5g	30	Tube

Note: xx = voltage

ORDERING INFORMATION SCHEME

70 PT 06 D

Current

70 = 75A, $I_{T(RMS)}$

SCR series

Voltage Code

08 = 800V
10 = 1000V
12 = 1200V
16 = 1600V
18 = 1800V

Package type

D = TO-247S

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

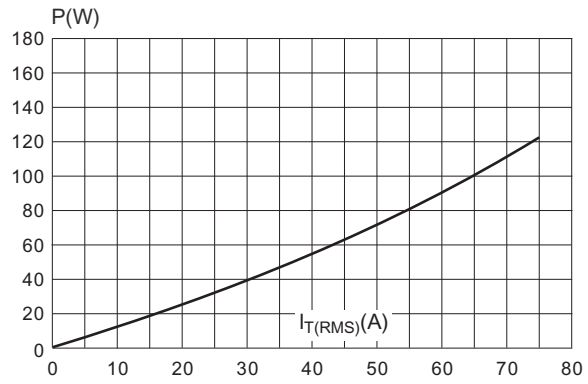


Fig.2 RMS on-state current versus case temperature (full cycle)

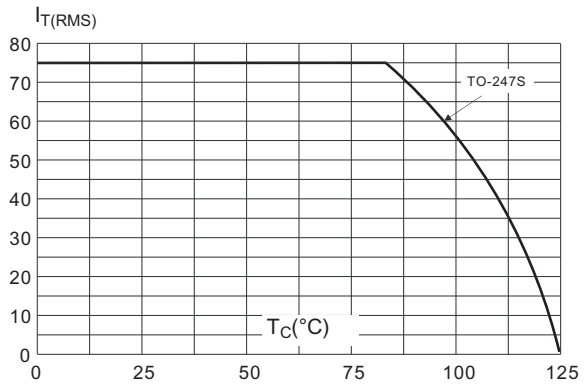


Fig.3 On-state characteristics (maximum values).

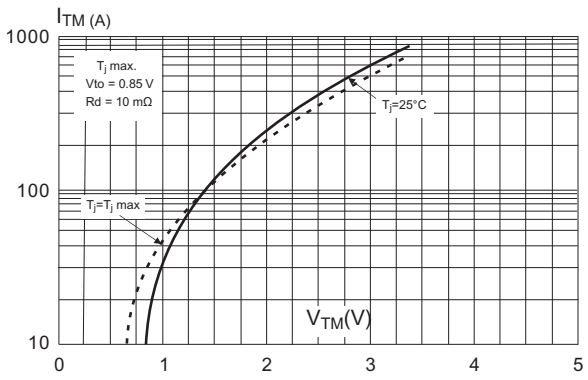


Fig.4 Surge peak on-state current versus number of cycles.

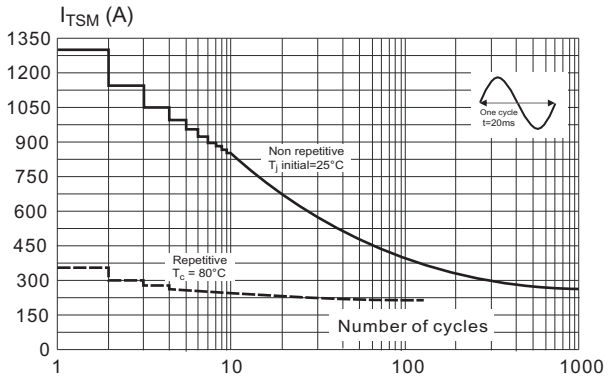


Fig.5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding value of I^2t .

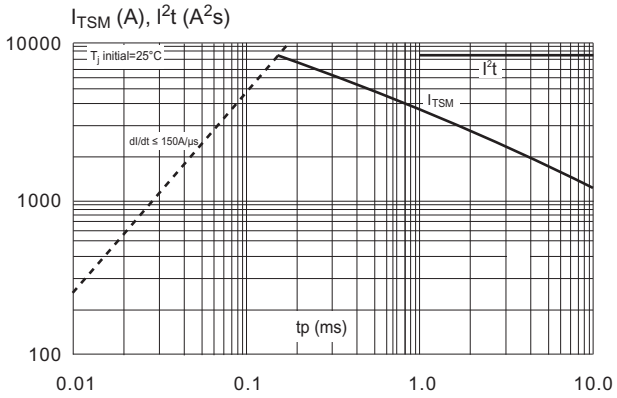
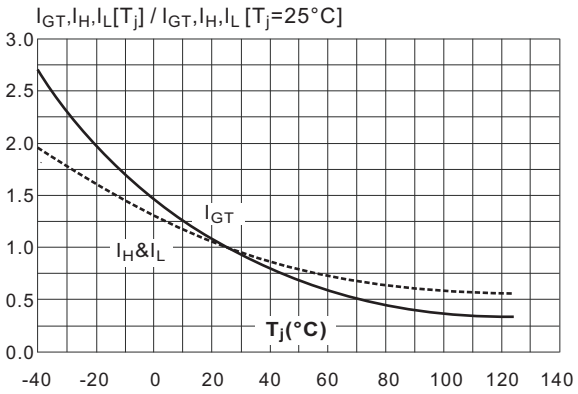
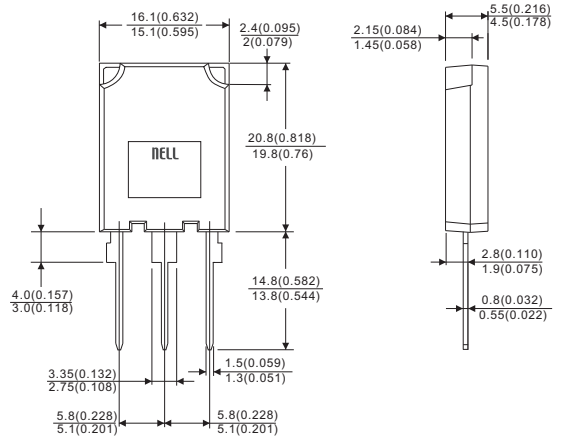


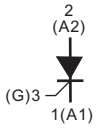
Fig.6 Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Case Style

TO-247S





All dimensions in millimeters (inches)