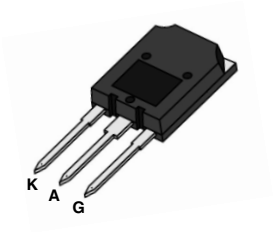
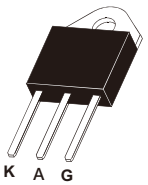
Stansard SCRs, 75A

Main Features

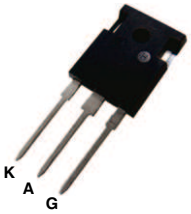
Symbol	Value	Unit
$I_{T(RMS)}$	75	A
V_{DRM}/V_{RRM}	1200 to 1600	V
I_{GT} Max.	50	mA



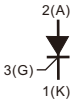
TO-247S (**non-Insulated**)
(75PTxxD)



TO-3P (**Insulated**)
(75PTxxBI)



TO-247AD (**non-Insulated**)
(75PTxxC)



DESCRIPTION

The 75PT 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 and high power motor control.

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)	$I_{T(RMS)}$	TO-247AD / TO-247S	T_c=90°C	75	A
		TO-3P insulated	T_c=80°C		
Average on-state current (180° conduction angle)	$I_{T(AV)}$	TO-247AD / TO-247S	T_c=90°C	50	A
		TO-3P insulated	T_c=80°C		
Non repetitive surge peak on-state current (full cycle, T_j initial = 25°C)	I_{TSM}	F =50 Hz	t = 20 ms	800	A
		F =60 Hz	t = 16.7 ms	860	
I^2t Value for fusing	I^2t	t_p = 10 ms		3200	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 to 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**
I_{GT}	V_D = 12V, R_L = 33Ω		Max.	50	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.	100	mA
I_L	$I_G = 1.2 \times I_{GT}$		Max.	150	mA
dV/dt	V_D = 67% V_{DRM}, Gate open	T_j = 125°C	Min.	500	V/μs
V_{TM}	I_T = 120A, t_P = 380μs	T_j = 25°C	Max.	1.8	V
I_{DRM} I_{RRM}	$V_D=V_{DRM}$, $V_R=V_{RRM}$ R_{GK} = 220Ω	T_j = 25°C	Max.	10	μA
		T_j = 125°C	Max.	8	mA

THERMAL RESISTANCE				
SYMBOL	**Parameter**		**VALUE**	**UNIT**
$R_{th(j-c)}$	Junction to case (DC)	TO-247AD/TO-247S	0.50	°C/W
		TO-3P insulated	0.65	
$R_{th(j-a)}$	Junction to ambient	TO-247S/TO-247AD/TO-3P insulated	50	°C/W

S=Copper surface under tab

PRODUCT SELECTOR				
PART NUMBER	**VOLTAGE (xx)**		**SENSITIVITY**	**PACKAGE**
	1200 V	1600V		
75PTxxBI	V	V	50mA	TO-3P
75PTxxC	V	V	50mA	TO-247AD
75PTxxD	V	V	50mA	TO-247S

ORDERING INFORMATION					
ORDERING TYPE	**MARKING**	**PACKAGE**	**WEIGHT**	**BASE Q'TY**	**DELIVERY MODE**
75PT12BI/75PT16BI	75PT12BI/75PT16BI	TO-3P insulated	4.8g	30	Tube
75PT12C/75PT16C	75PT12C/75PT16C	TO-247AD	5.0g	30	Tube
75PT12D/75PT16D	75PT12D/75PT16D	TO-247S	6.5g	30	Tube

ORDERING INFORMATION SCHEME

75 PT 12 BI

Current

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

SCR series

Voltage Code

12 = 1200V
16 = 1600V

Package type

BI = TO-3P (insulated)
C = TO-247AD
D = TO-247S

Fig.1 Maximum power dissipation versus average on-state current (half cycle)

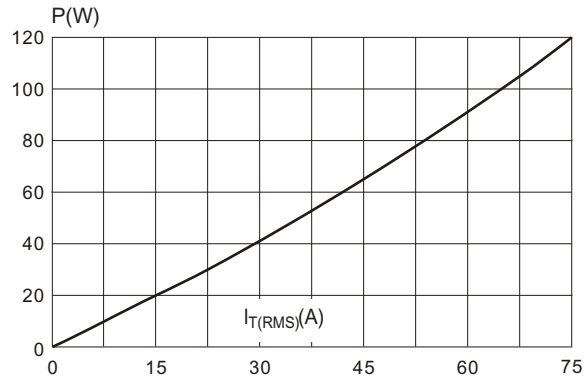


Fig.2 RMS on-state current versus case temperature (full cycle)

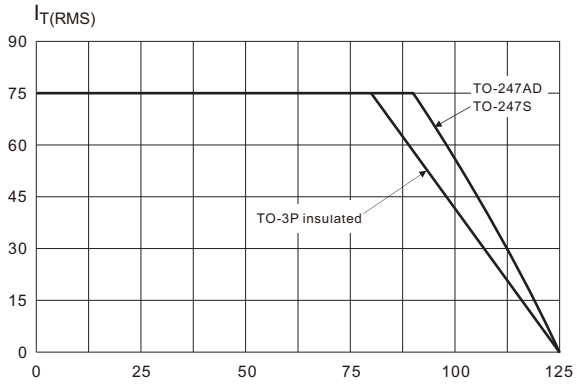


Fig.3 On-state characteristics (maximum values).

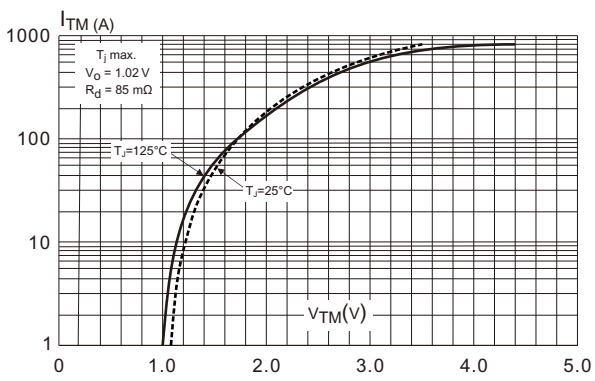


Fig.4 Surge peak on-state current versus number of cycles.

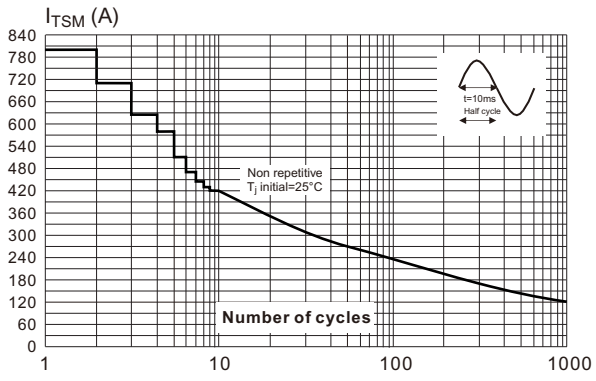


Fig.5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding value of I^2t .

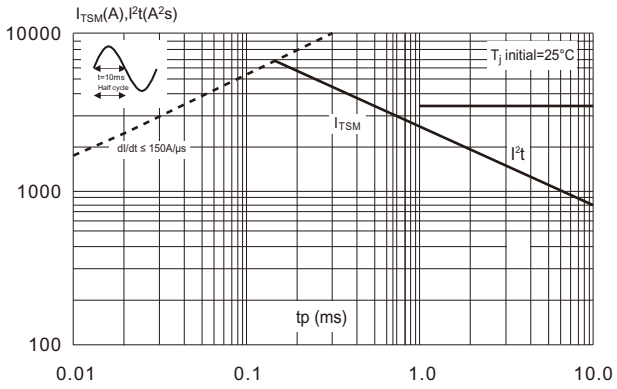
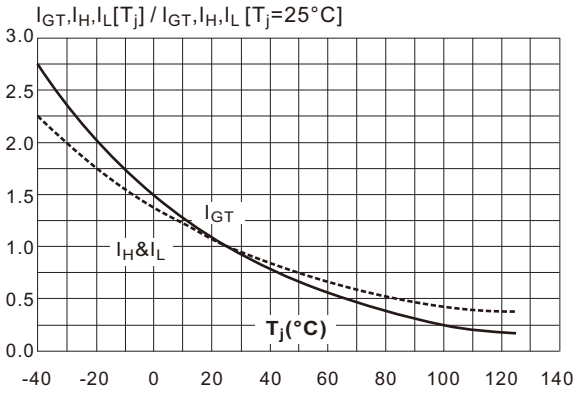
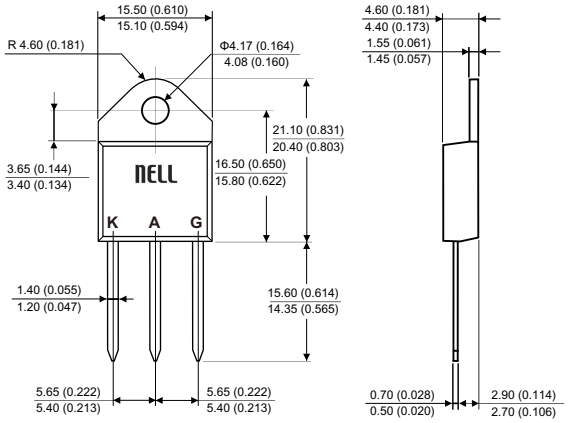


Fig.6 Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)

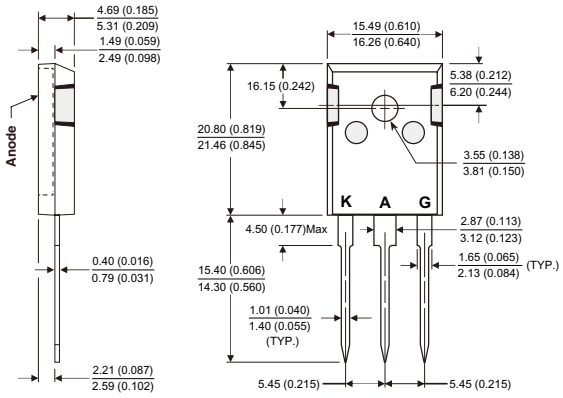


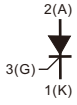
Case Style

TO-3P



TO-247AD

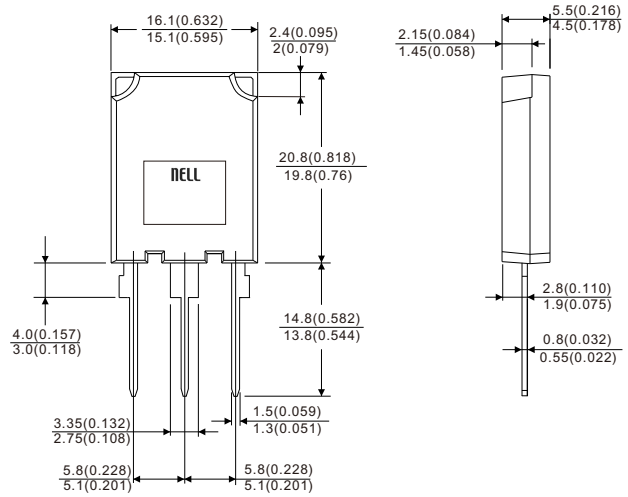


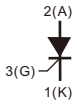


All dimensions in millimeters(inches)

Case Style

TO-247S





All dimensions in millimeters