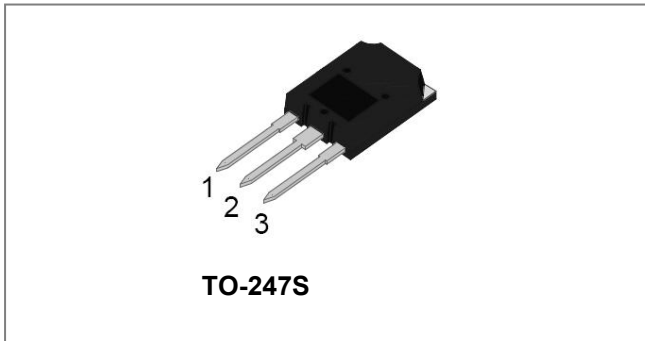
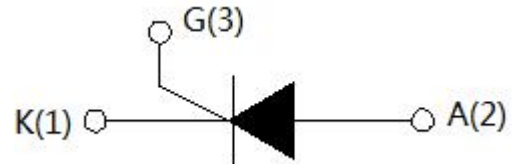


SCT1275CS 75A SCRs



Circuit Diagram



Description

With high ability to withstand the shock loading of large current, SCT1275CS provide high dv/dt rate with high frequency noise immunity. Products are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc.

From all three terminals to external heatsink.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Storage junction temperature range	T_{stg}	-	-40-150	°C
Operating junction temperature range	T_j	-	-40-125	°C
Repetitive peak off-state voltage($T_j=25^\circ\text{C}$)	V_{DRM}	-	1200	V
Repetitive peak reverse voltage($T_j=25^\circ\text{C}$)	V_{RRM}	-	1200	V
Non repetitive surge peak Off-state voltage	V_{DSM}	-	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	V_{RSM}	-	$V_{RRM} + 100$	V
RMS on-state current	$I_{(TRMS)}$	TO-247S($T_c=90^\circ\text{C}$)	75	A
Non repetitive surge peak on-state current (tp=10ms)	I_{TSM}	-	800	A
I^2t value for fusing (tp=10ms)	I^2t	-	3200	A ² s
Critical rate of rise of on-state current ($I_G=2 \times I_{ET}$)	dI/dt	-	150	A/ μ s
Peak gate current	I_{GM}	-	4	A
Average gate power dissipation	$P_{G(AV)}$	-	1	W
Peak gate power	P_{GM}	-	5	W

Electrical Characteristics(T_j=25°C unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I _{GT}	V _D =12V R _L =33Ω	-	-	70	mA
V _{GT}		-	-	1.3	V
V _{GD}	V _D =V _{DRM} T _j =125°C R _L =3.3KΩ	0.2	-	-	V
I _L	I _G =1.2I _{GT}	-	-	150	mA
I _H	I _T =1A	-	-	120	mA
dV/dt	V _D =2/3V _{DRM} Gate Open T _j =125°C	700	-	-	V/μs

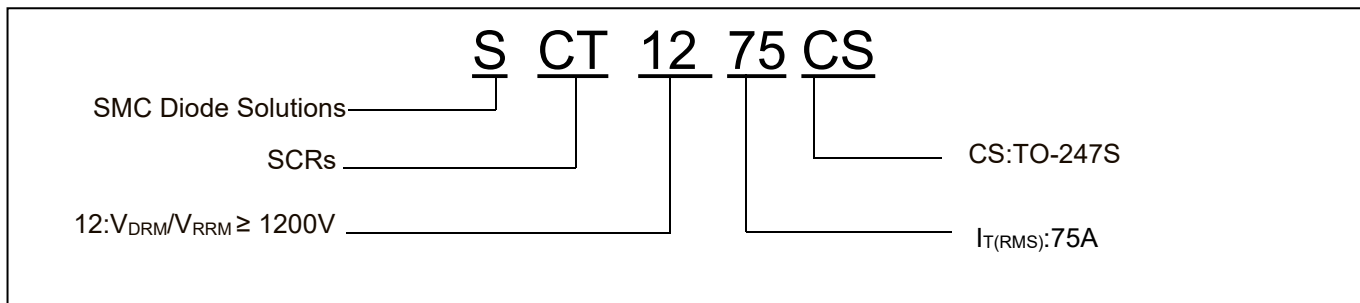
Static Characteristics

Symbol	Condition	Max.	Units
V _{TM}	I _{TM} =100A t _p =380μs, T _j =25°C	1.5	V
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM} , T _j =25°C	50	μA
I _{RRM}	V _D =V _{DRM} V _R =V _{RRM} , T _j =125°C	10	mA

Thermal Resistances

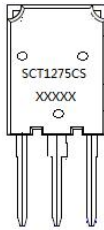
Symbol	Condition		Value	Units
R _{th(j-c)}	Junction to case(AC)	TO-247S	0.52	°C/W

Ordering Information



Device	Package	Shipping
SCT1275CS	TO-247S	30pcs/ Tube

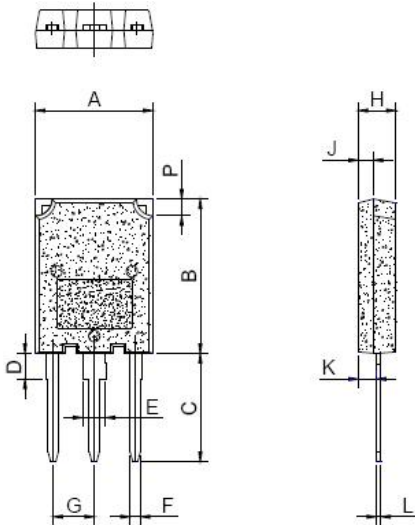
Marking Diagram



Where XXXXX is YYWWL

SCT1275CS = Part name
YY = Year
WW = Week
L = Lot Number

Mechanical Dimensions TO-247CS



SYMBOL	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.1		16.1	0.594		0.634
B	19.8		20.8	0.78		0.819
C	13.8		14.8	0.543		0.583
D	3.00		4.00	0.118		0.157
E	2.75		3.35	0.108		0.132
F	1.30		1.50	0.051		0.059
G	5.10		5.80	0.201		0.228
H	4.50		5.50	0.177		0.217
J	1.45		2.15	0.057		0.085
K	1.90		2.80	0.075		0.110
L	0.55		0.80	0.022		0.031
P	2.00		2.40	0.079		0.094

Ratings and Characteristics Curves

FIG.1: Maximum power dissipation versus RMS on-state current

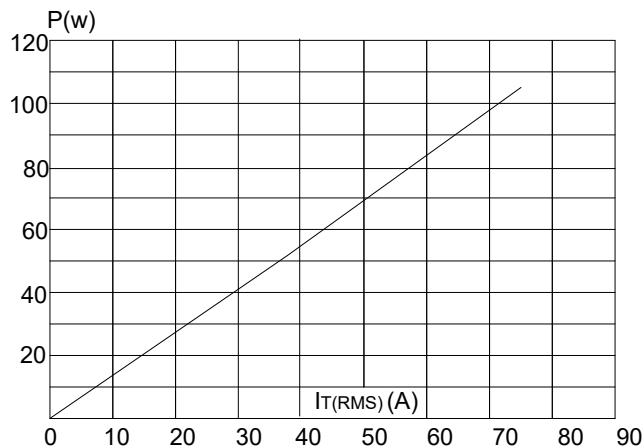


FIG.2: RMS on-state current versus case temperature

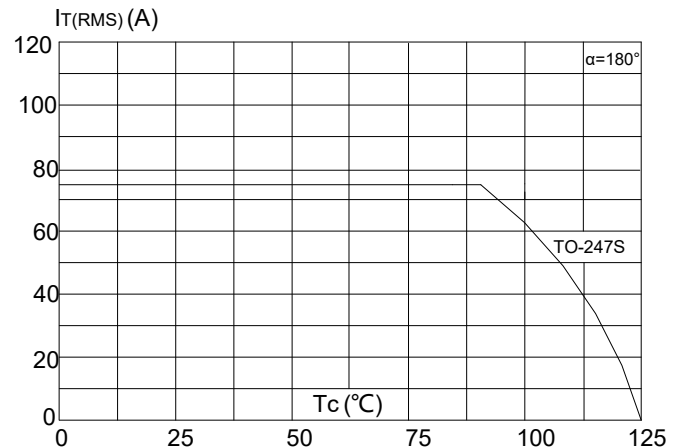


FIG.3: Surge peak on-state current versus number of cycles

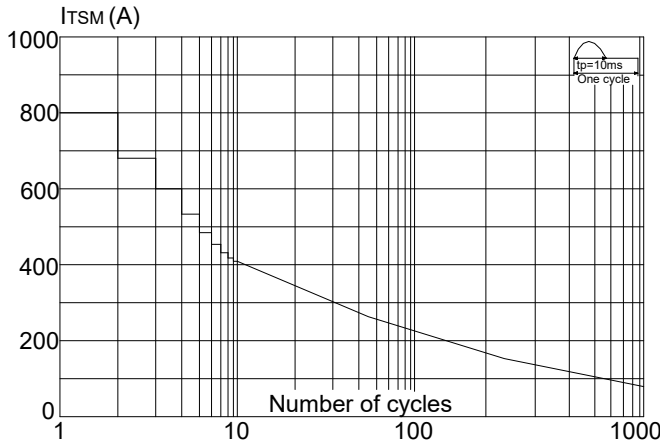


FIG.4: On-state characteristics (maximum values)

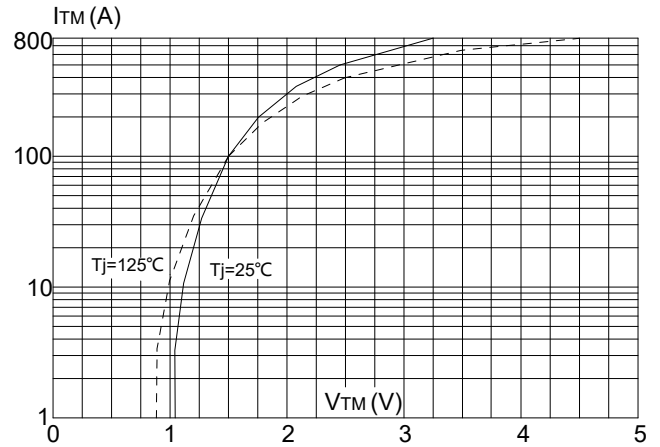


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of $I^2 t$ ($di/dt < 150A/\mu s$)

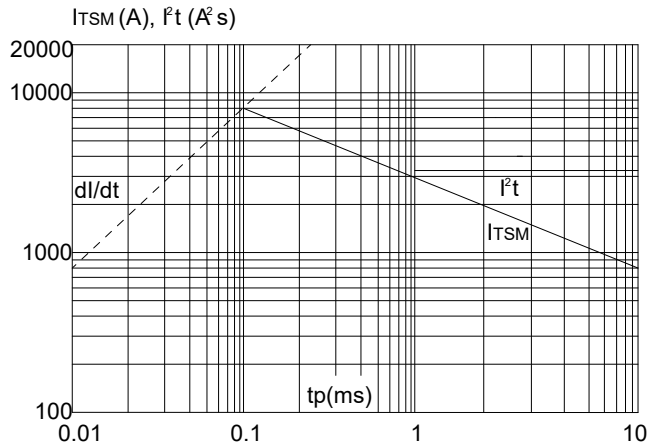
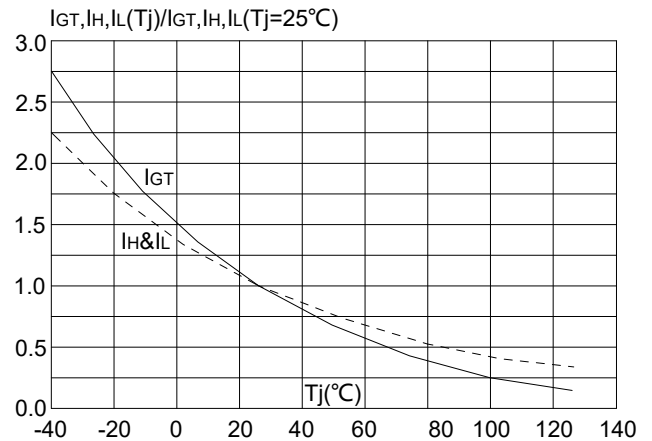


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature





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