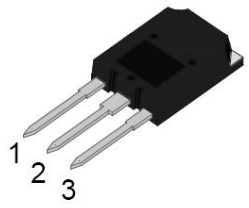
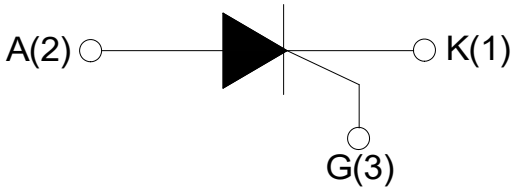
Technical Data
Data Sheet N2072, Rev.-

SCT1675CS 75A SCRs



TO-247S

Circuit Diagram



Description

With high ability to withstand the shock loading of large current, SCT1675 SCRs provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Storage junction temperature range	T_{stg}	-	-40-150	℃
Operating junction temperature range	T_j	-	-40-125	℃
Repetitive peak off-state voltage(T_j=25℃)	V_{DRM}	-	1600	V
Repetitive peak reverse voltage(T_j=25℃)	V_{RRM}	-	1600	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
Average on-state current	$I_{T(AVA)}$	TO-247S(T_C=80℃)	48	A
RMS on-state current	$I_{(TRMS)}$	TO-247S(T_C=80℃)	75	A
Non repetitive surge peak on-state current (tp=10ms)	I_{TSM}	-	750	A
I^2t value for fusing (tp=10ms)	I^2t	-	2800	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT})	dI/dt	-	150	A/μs
Peak gate current	I_{GM}	-	4	A
Average gate power dissipation	$P_{G(AV)}$	-	1	W
Peak gate power	P_{GM}	-	5	W

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RoHS

Electrical Characteristics(Tj=25℃ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	V_D=12V R_L=33Ω	10	-	80	mA
V_{GT}		-	-	1.5	V
V_{GD}	V_D=V_{DRM} T_j=125℃ R_L=3.3KΩ	0.25	-	-	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℃	1000	-	-	V/μs

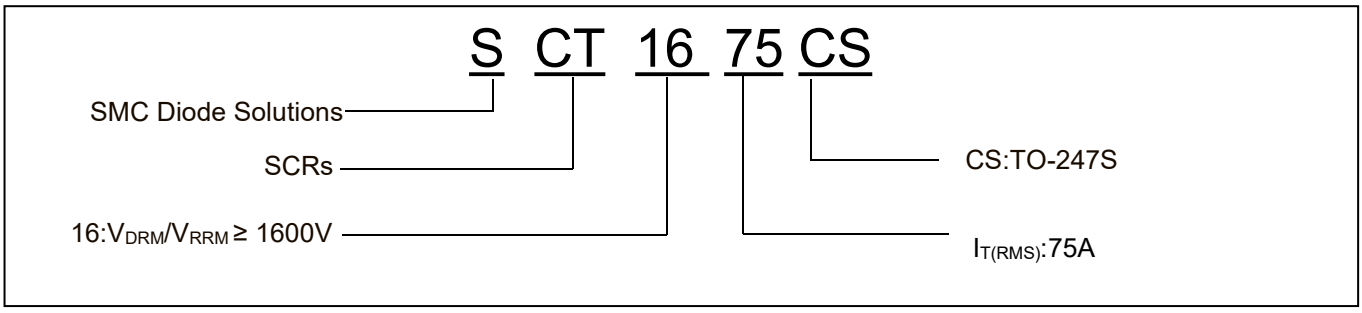
Static Characteristics

Symbol	Condition	Max.	Units
V_{TM}	I_{TM}=100A tp=380μs,Tj=25℃	1.8	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}, Tj=25℃	50	μA
I_{RRM}	V_D=V_{DRM} V_R=V_{RRM}, Tj=125℃	10	mA

Thermal Resistances

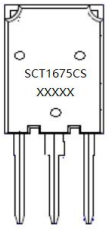
Symbol	Condition		Value	Units
Rth(j-c)	Junction to case(AC)	TO-247S	0.6	℃/W

Ordering Information



Device	Package	Shipping
SCT1675CS	TO-247S	30pcs/ Tube

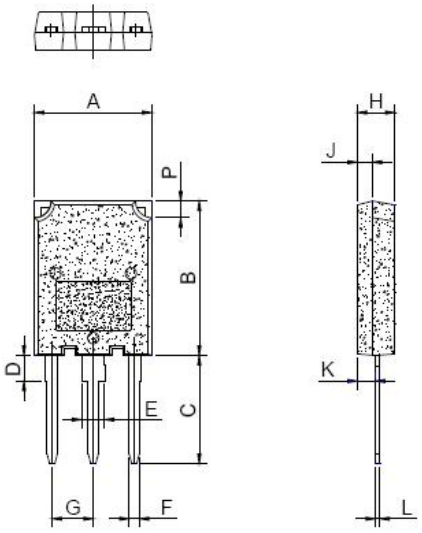
Marking Diagram



Where XXXXX is YYWWL

SCT1675CS = 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

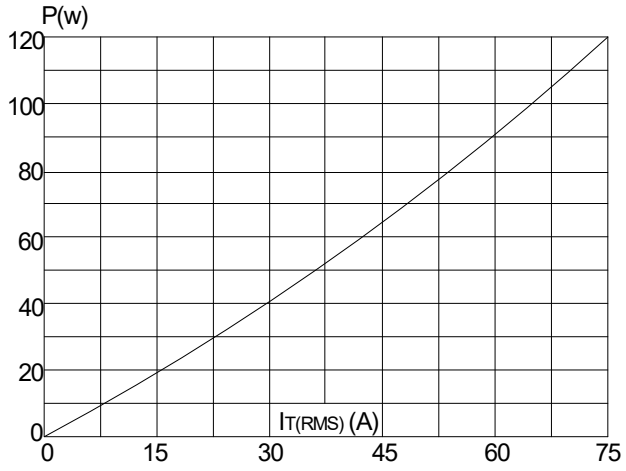


FIG.2: RMS on-state current versus case temperature

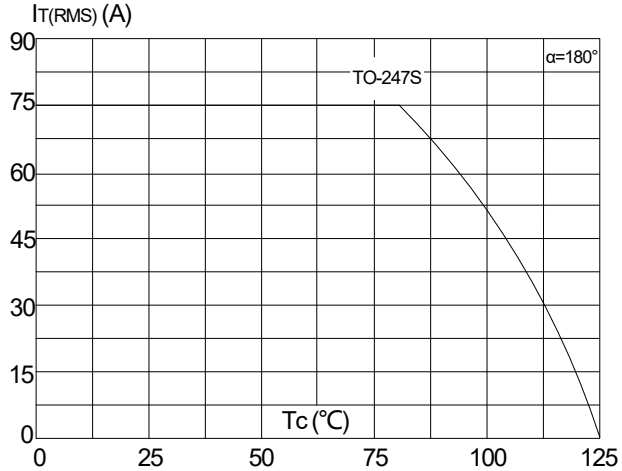


FIG.3: Surge peak on-state current versus number of cycles

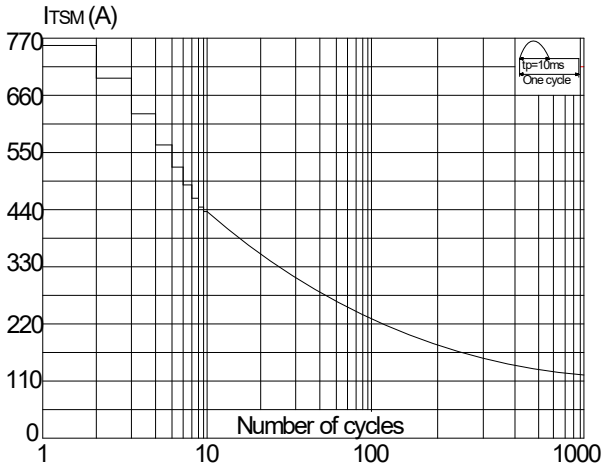


FIG.4: On-state characteristics (maximum values)

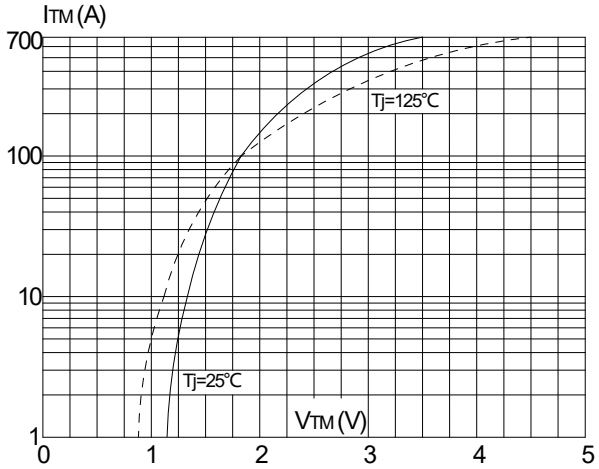


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponging value of I^2t (dI/dt < 150A/µs)

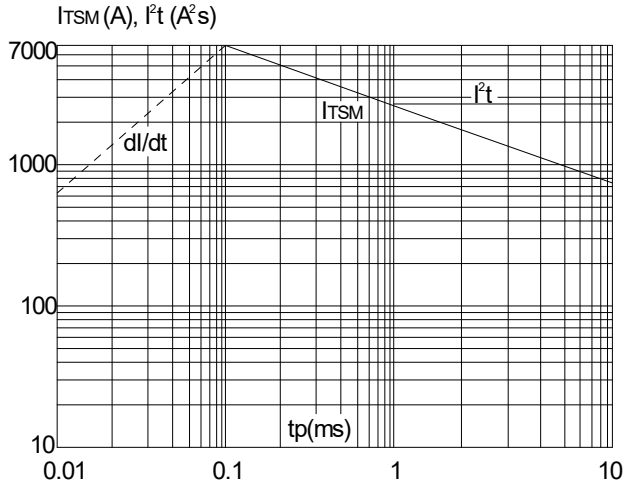
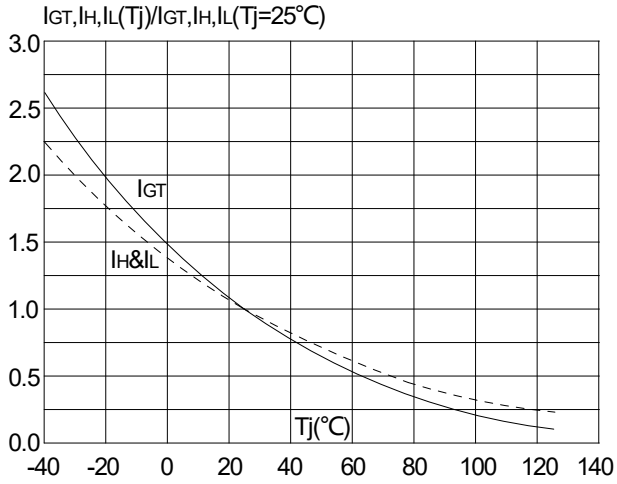


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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