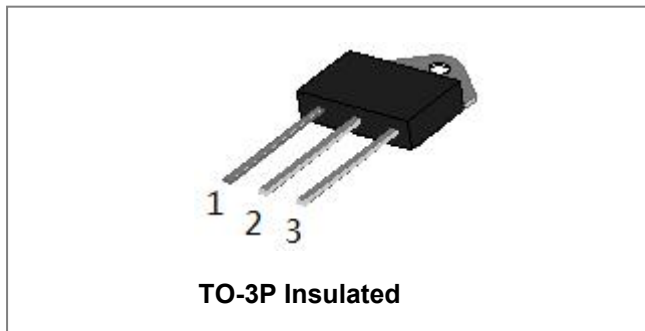
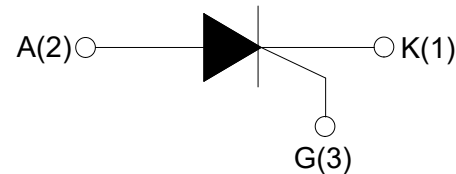


SCT655Z/855Z 55A SCRs



Circuit Diagram



Description

With high ability to withstand the shock loading of large current, SCT655/855 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_J	-	-40-150	°C
Operating junction temperature range	T_{stg}	-	-40-125	°C
Repetitive peak off-state voltage($T_J=25^\circ\text{C}$)	V_{DRM}	-	600/800	V
Repetitive peak reverse voltage($T_J=25^\circ\text{C}$)	V_{RRM}	-	600/800	V
RMS on-state current	$I_{(TRMS)}$	TO-3P Ins ($T_C=80^\circ\text{C}$)	55	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$)	I_{TSM}	-	520	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	-	1350	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	-	150	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	-	5	A
Peak gate power	P_{GM}	-	10	W
Average gate power dissipation ($T_J=125^\circ\text{C}$)	$P_{G(AV)}$	-	1	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	10	15	50	mA
V _{GT}		-	-	1.5	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}	-	-	100	mA
I _H	I _T =500mA	-	-	80	mA
dV/dt	V _D =2/3V _{DRM} T _j =125°C Gate Open	700	-	-	V/μs

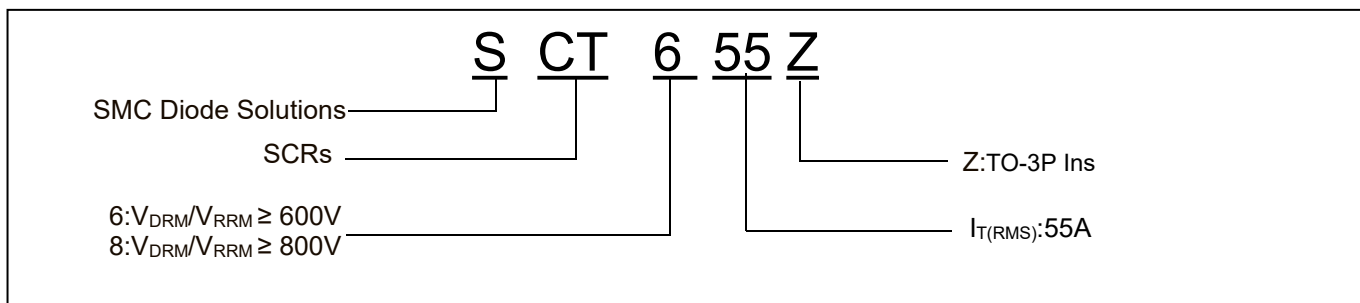
Static Characteristics

Symbol	Condition	Max.	Units
V _{TM}	I _{TM} =80A tp=380μs, T _j =25°C	1.6	V
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM} , T _j =25°C	10	μA
I _{RRM}	V _D =V _{DRM} V _R =V _{RRM} , T _j =125°C	6	mA

Thermal Resistances

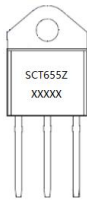
Symbol	Condition		Value	Units
R _{th(j-c)}	Junction to case(AC)	TO-3P Ins	0.65	°C/W

Ordering Information



Device	Package	Shipping
SCT655Z/SCT855Z	TO-3P Ins	30pcs/ Tube

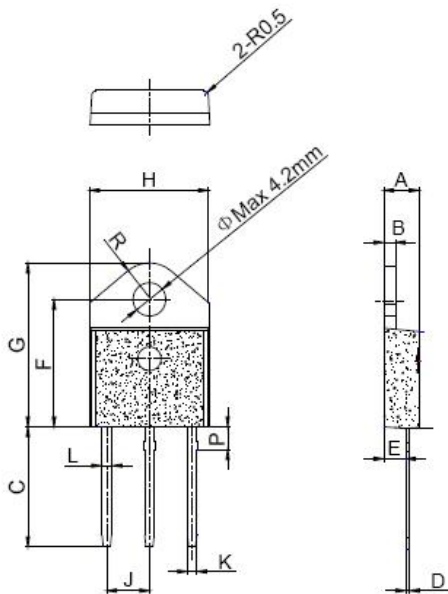
Marking Diagram



Where XXXXX is YYWWL

SCT655Z = Part name
YY = Year
WW = Week
L = Lot Number

Mechanical Dimensions TO-220B(Non-Ins)



SYMBOL	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.35		1.50	0.053		0.059
P	2.80		3.00	0.110		0.118
R		4.35			0.171	

Ratings and Characteristics Curves

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

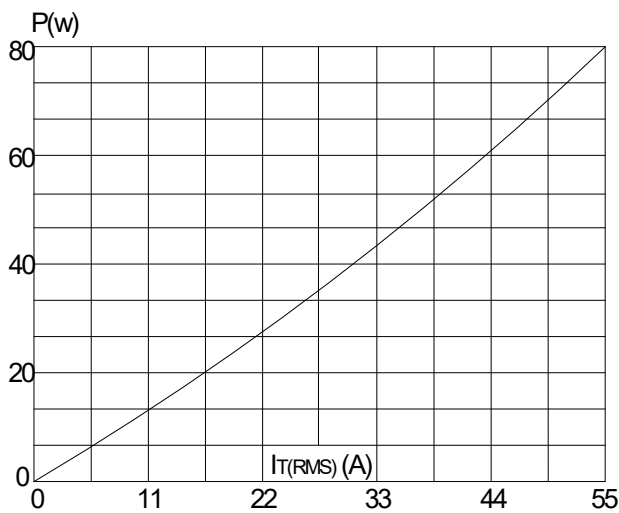


FIG.2: RMS on-state current versus case temperature

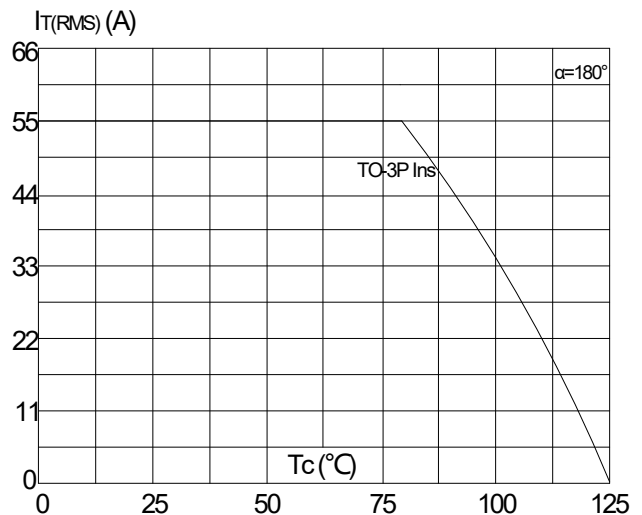


FIG.3: Surge peak on-state current versus number of cycles

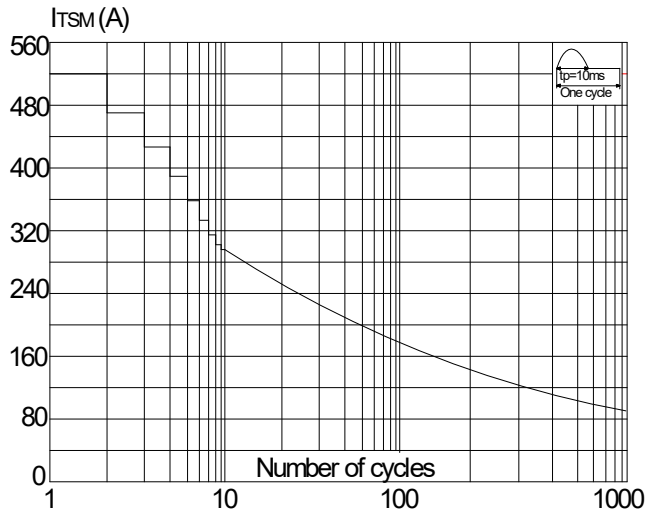


FIG.4: On-state characteristics (maximum values)

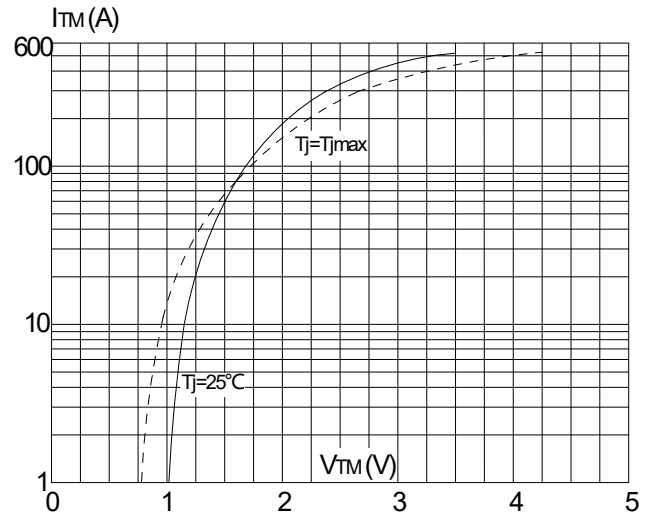


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of $I^2 t$ ($di/dt < 150A/\mu s$)

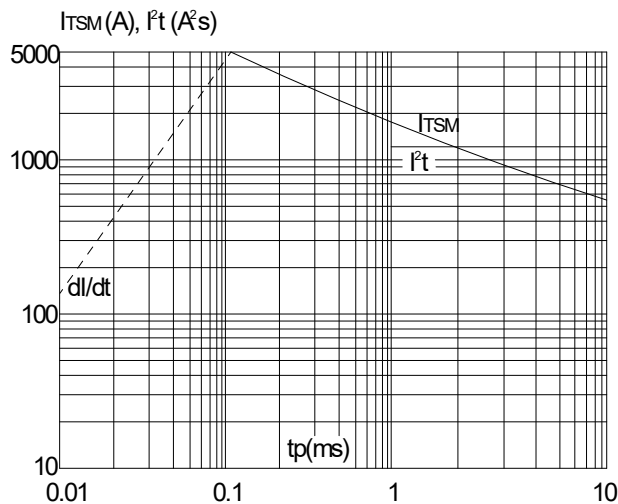
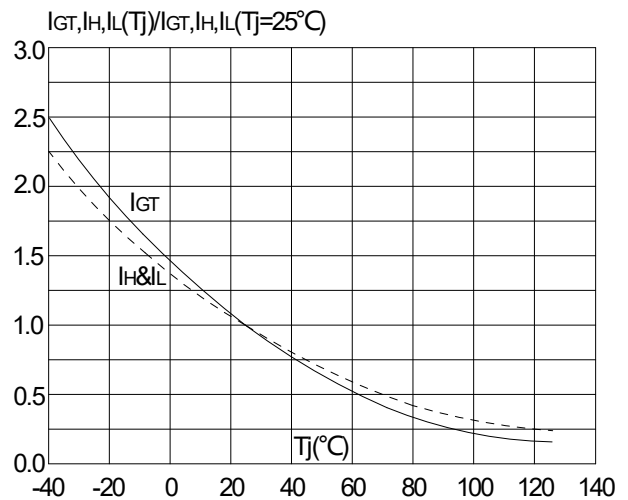


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



Technical Data
Data Sheet N2070, Rev.-



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