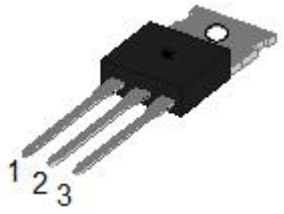
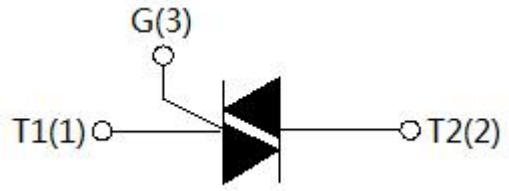
Technical Data
Data Sheet N2043, Rev.-

SST139 Series 16A TRIACs



TO-220C

Circuit Diagram



Description

With SST139 series triacs with low holding and latching current are especially recommended for use on middle and small resistance type power load.From all three terminals to external heatsink.

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}	-	600/800	V
Repetitive peak reverse voltage(T_j=25℃)	V_{RRM}	-	600/800	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-220C(T_C=100℃)	16	A
Non repetitive surge peak on-state current (tp=20ms)	I_{TSM}	-	140	A
I^2t value for fusing (tp=10ms)	I^2t	-	98	A^2s
Critical rate of rise of on-state current (I_G =2×I_{GT})	dI/dt	Ⅰ-Ⅱ-Ⅲ	50	A/μs
		Ⅳ	10	
Peak gate current	I_{GM}	-	2	A
Average gate power dissipation	P_{GM}	-	0.5	W
Peak gate power	$P_{G(AV)}$	-	5	W

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RoHS

Electrical Characteristics(Tj=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value				Unit
				D	E	F	B	
I_{GT}	V_D=12V R_L=33Ω	Ⅰ - Ⅱ -Ⅲ	MAX	5	10	25	50	mA
		Ⅳ		10	25	70	70	
V_{GT}		ALL	MAX	1.3				V
V_{GD}	V_D=V_{DRM} T_j=125℃ R_L=3.3KΩ	ALL	MIN	0.2				V
I_L	I_G=1.2I_{GT}	Ⅰ - Ⅲ	MAX	15	30	50	80	mA
		Ⅱ - Ⅳ		20	40	100	120	
I_H	I_T=100mA		MAX	10	25	40	60	mA
dV/dt	V_D=2/3V_{DRM} Gate Open T_j=125℃		MIN	20	50	100	500	V/μs

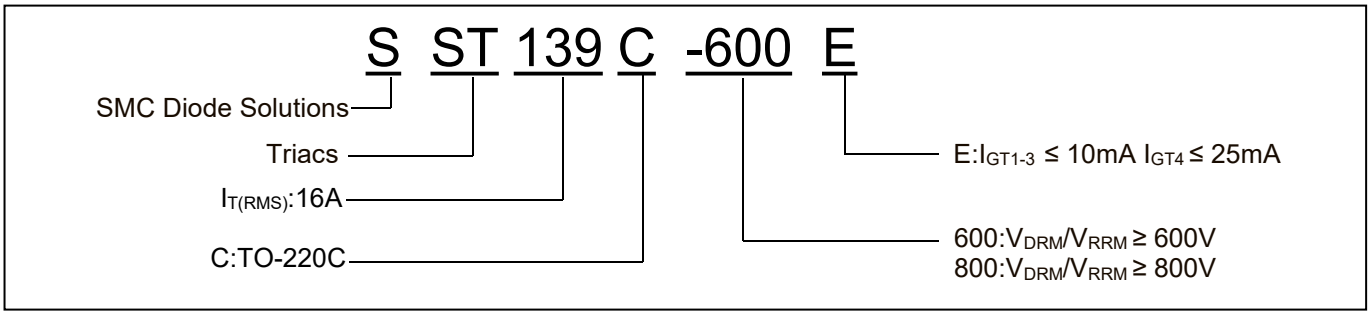
Static Characteristics

Symbol	Condition	Max.	Units
V_{TM}	I_{TM}=20A tp=380μs,Tj=25℃	1.6	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}, Tj=25℃	5	μA
I_{RRM}	V_D=V_{DRM} V_R=V_{RRM}, Tj=125℃	1	mA

Thermal Resistances

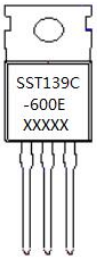
Symbol	Condition		Value	Units
Rth(j-c)	Junction to case(AC)	TO-220AC	1.2	℃/W

Ordering Information



Device	Package	Shipping
SST139C-600E	TO-220C	50pcs/ Tube

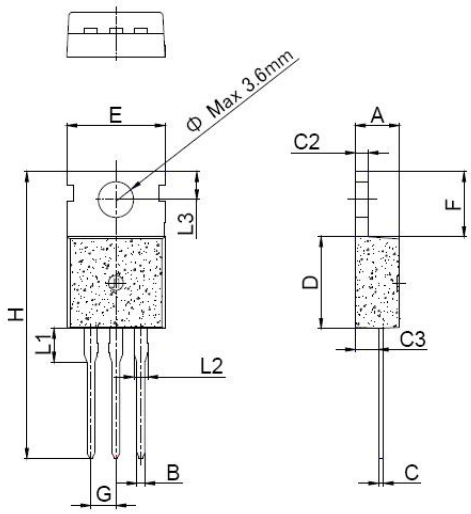
Marking Diagram



Where XXXXX is YYWWL

SST139C-600E = Part name
YY = Year
WW = Week
L = Lot Number

Mechanical Dimensions TO-220C



SYMBOL	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.39		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
ϕ		3.6			0.142	

Ratings and Characteristics Curves

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

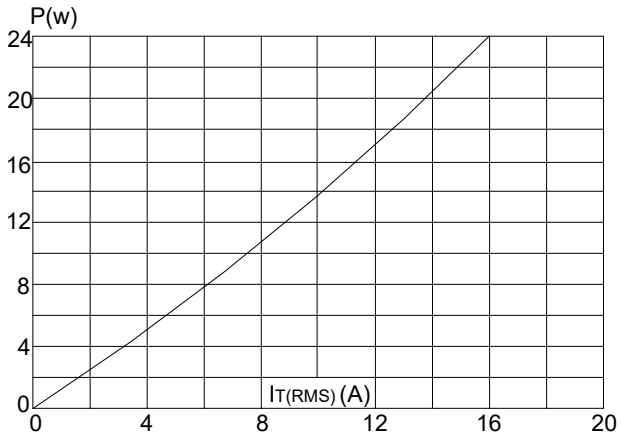


FIG.2: RMS on-state current versus case temperature

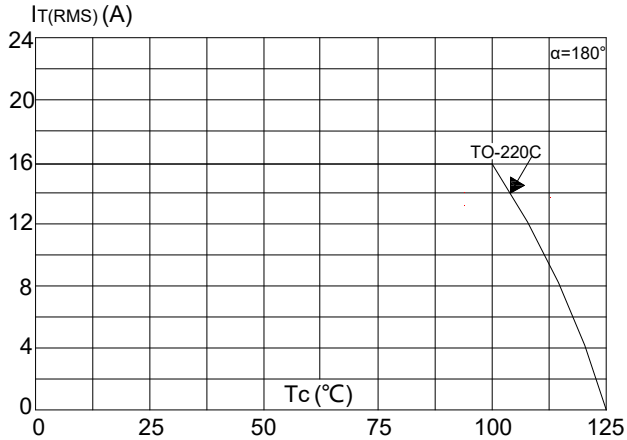


FIG.3: Surge peak on-state current versus number of cycles

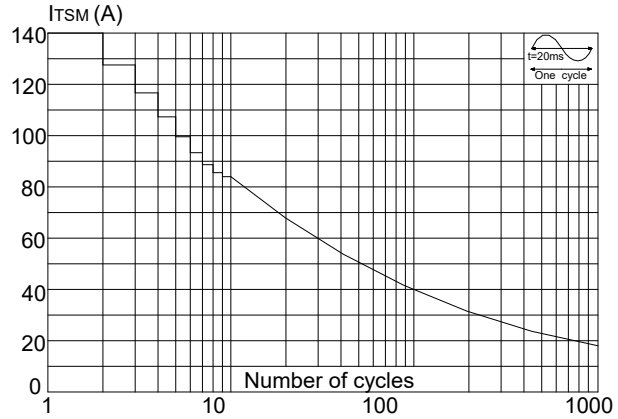


FIG.4: On-state characteristics (maximum values)

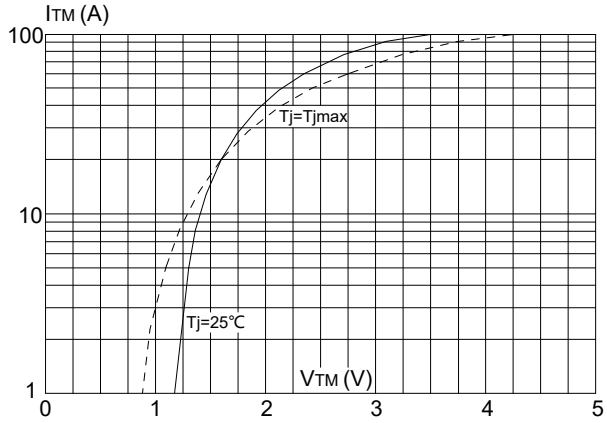


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms and corresponding value of I^2t (Ⅰ-Ⅱ-Ⅲ:dI/dt < 50A/μs; Ⅳ:dI/dt < 10A/μs)

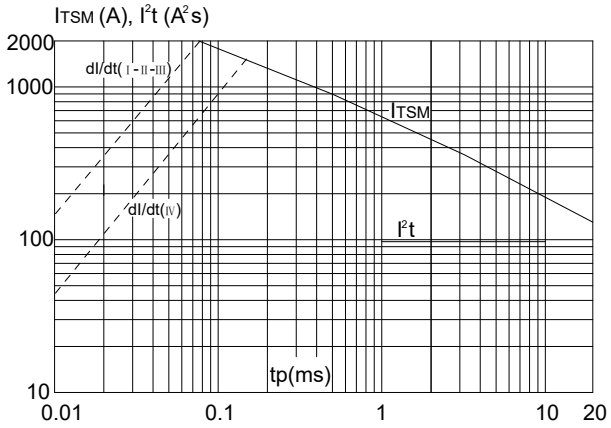


FIG.6: Relative variations of gate trigger current versus junction temperature

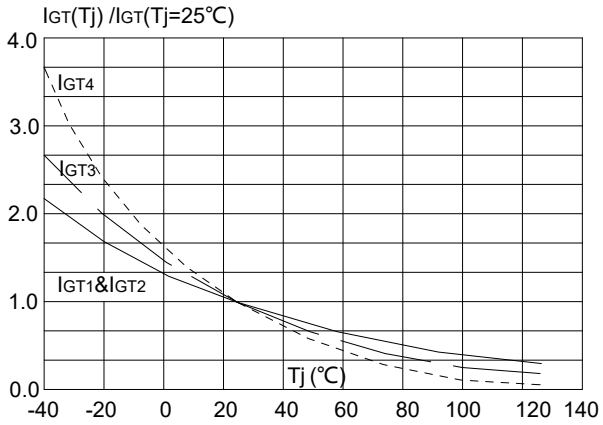


FIG.7: Relative variations of holding current versus junction temperature

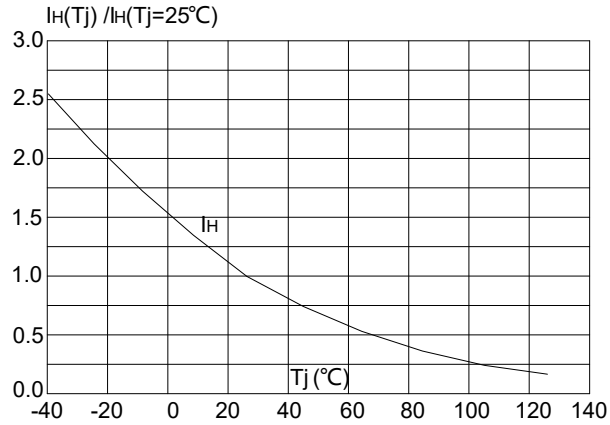
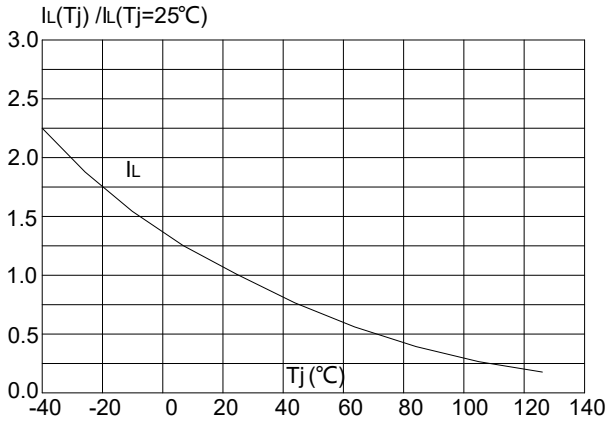


FIG.8: Relative variations of latching current versus junction temperature



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