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Technical Data Data Sheet N2043, Rev.-

SST139 Series 16A TRIACs



Description

With SST139 series triacs with low holding and latching current are especially recommended for use on middle and small resistance type power load.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Storage junction temperature range	T _{stg}	-	-40-150	°C
Operating junction temperature range	Tj	-	-40-125	°C
Repetitive peak off-state voltage(Tj=25 $^\circ\!\mathrm{C}$)	V _{DRM}	-	600/800	V
Repetitive peak reverse voltage(Tj=25 $^{\circ}$ C)	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(Tc=100℃)	16	А
Non repetitive surge peak on-state current (tp=20ms)	I _{TSM}	-	140	А
l ² t value for fusing (tp=10ms)	l²t	-	98	A ² s
Critical rate of rise of on-state current	dl/dt	I - II -III	50	A/µs
$(I_{G}=2\times I_{GT})$		IV	10	Avus
Peak gate current	I _{GM}	-	2	А
Average gate power dissipation	P _{GM}	-	0.5	W
Peak gate power	P _{G(AV)}	-	5	W

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SST139C-600E SST139C-800E

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

Symbol Te	Test Condition	Quadrant		Value			Unit	
	Test condition Quadrant		D	E	F	В	Unit	
1		I - II -III	MAX	5	10	25	50	mA
IGT	I _{GT} V _D =12V R _L =33Ω	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 - III	MAX	15	30	50	80	mA
I∟ I _G =1.2I _{GT}	I _G =1.2I _{GT}	G=1.2IGT II - IV		20	40	100	120	
Iн	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

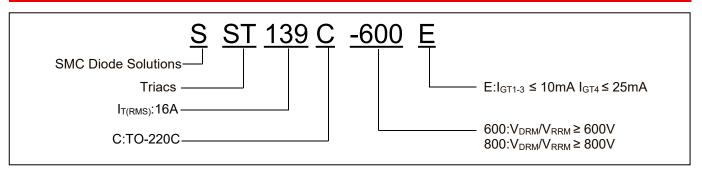
Static Characteristics

Symbol	Condition	Max.	Units
V _{TM}	I _™ =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	°C/W

Ordering Information



Device	Package	Shipping
SST139C-600E/SST139C-800E	TO-220C	50pcs/ Tube

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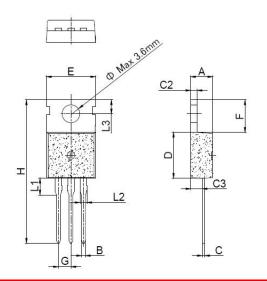
Marking Diagram



Where XXXXX is YYWWL

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

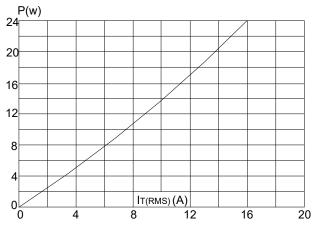
Mechanical Dimensions TO-220C

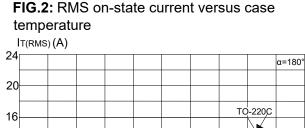


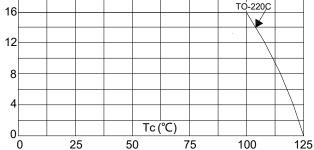
SYMBOL	Millimeters			Inches		
	Min.	Тур.	Max.	Min.	Тур.	Max.
A	4.40		4.60	0.173		0.181
В	0.70		0.90	0.028		0.035
С	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.39		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
н	28.0		29.8	1.102		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

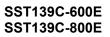






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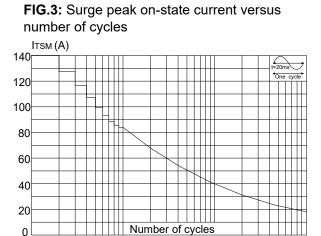
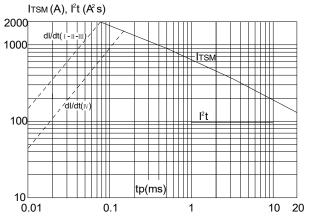


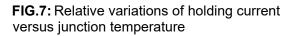
FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms and corresponding value of f t $(I - II - III: dI/dt < 50A/\mu s; IV: dI/dt < 10A/\mu s)$

10

100

1000





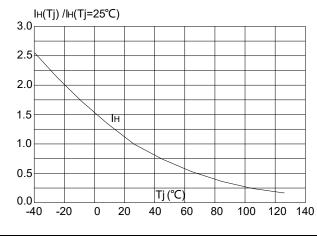


FIG.4: On-state characteristics (maximum values)

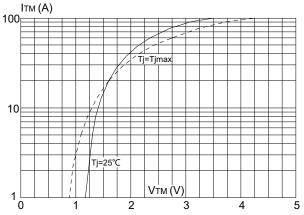


FIG.6: Relative variations of gate trigger current versus junction temperature

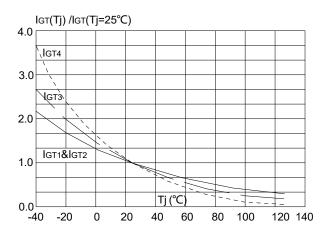
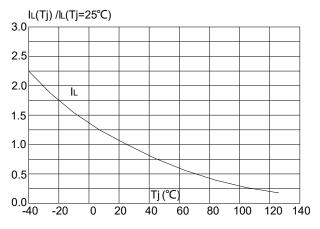


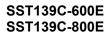
FIG.8: Relative variations of latching current versus junction temperature



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