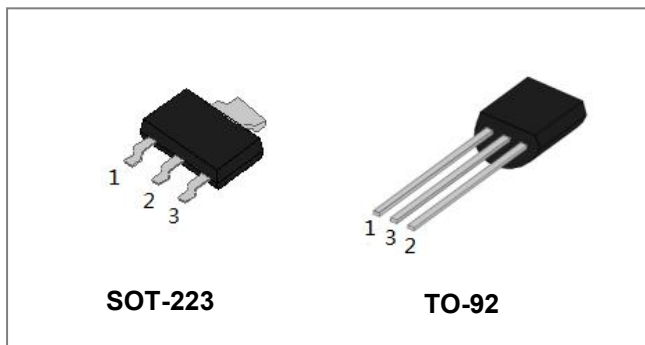
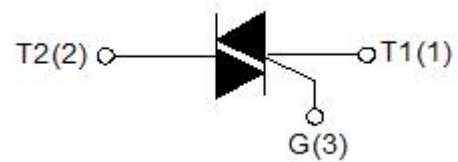


SST131 Series 1A TRIACs



Circuit Diagram



Description

With low holding and latching current, SST131 series triacs 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	T_j	-	-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
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-92($T_c=50^\circ\text{C}$) SOT-223($T_c=70^\circ\text{C}$)	1	A
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)	I_{TSM}	-	16	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	-	1.28	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	-	20	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	-	2	A
Average gate power dissipation	P_{GM}	-	0.5	W
Peak gate power	$P_{G(AV)}$	-	5	W

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

Symbol	Test Condition	Quadrant		Value			Unit
				T	D	E	
I _{GT}	V _D =12V R _L =33Ω	I - II-III	MAX	5	5	10	mA
		IV		5	10	25	
V _{GT}		ALL	MAX	1.3			V
V _{GD}	V _D =V _{DRM} T _j =125°C R _L =3.3KΩ	ALL	MIN	0.2			V
I _L	I _G =1.2I _{GT}	I -III	MAX	5	5	15	mA
		II-IV		10	20	30	
I _H	I _T =200mA		MAX	5	7	15	mA
dV/dt	V _D =2/3V _{DRM} Gate Open T _j =125°C		MIN	15	20	50	V/μs
(dV/dt) _c	(dI/dt) _c =0.44A/ms, T _j =110°C		MIN	-	1	-	V/μs

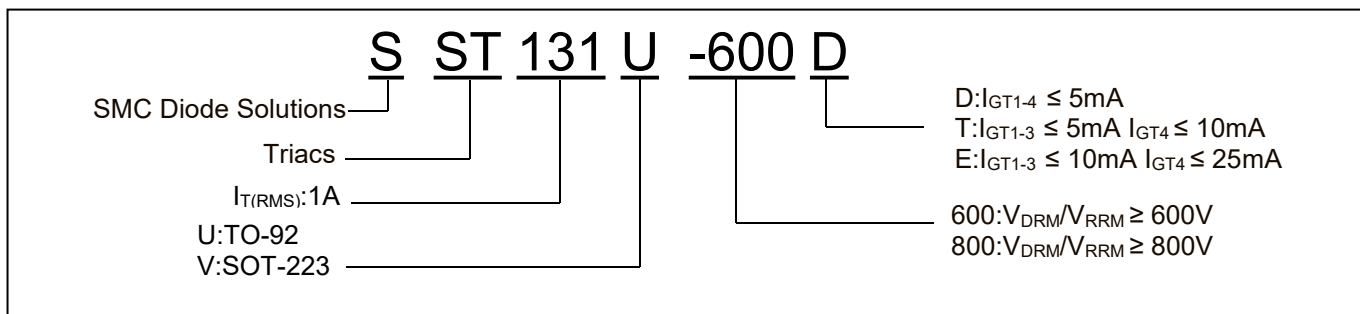
Static Characteristics

Symbol	Condition	Max.	Units
V _{TM}	I _T =1.4A t _p =380μs, T _j =25°C	1.5	V
V _{TO}	Threshold voltage, T _j =125°C	0.9	V
R _d	Dynamic resistance, T _j =125°C	295	mΩ
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM} , T _j =25°C	5	μA
I _{RRM}	V _D =V _{DRM} V _R =V _{RRM} , T _j =125°C	500	μA

Thermal Resistances

Symbol	Condition	Value	Units
R _{th(j-c)}	Junction to case(AC)	TO-92	60
		SOT-223	31

Ordering Information

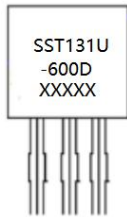


Technical Data
Data Sheet N2158, Rev.C



Device	Package	Shipping
SST131U-600D/SST131U-800D	TO-92	1000pcs/ bag
SST131U-600DTR/SST131U-800DTR	TO-92	2000pcs/ reel
SST131V-600D/SST131V-800D	SOT-223	4000pcs/ reel
SST131V-600DTR/SST131V-800DTR	SOT-223	4000pcs/ reel

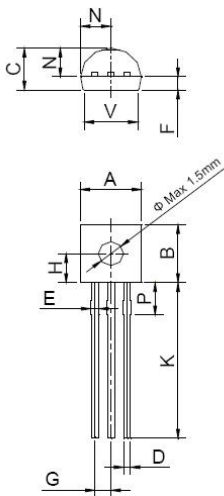
Marking Diagram



Where XXXXX is YYWWL

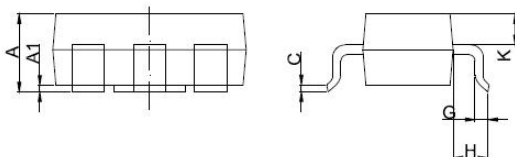
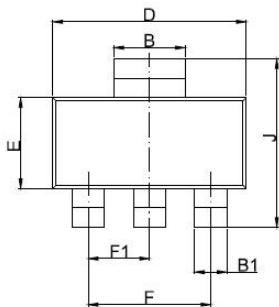
SST131U/V-600D = Part name
YY = Year
WW = Week
L = Lot Number

Mechanical Dimensions TO-92



SYMBOL	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45	-	5.20	0.17	-	0.205
B	4.32	-	5.33	0.17	-	0.210
C	3.18	-	4.19	0.12	-	0.165
D	0.40	-	0.53	0.01	-	0.021
E	0.50	-	0.70	0.02	-	0.028
F	1.10	-	1.30	-	-	0.051
G	1.10	-	1.40	0.04	-	0.055
H	2.20	-	2.40	0.08	-	0.094
J	0.36	-	0.50	0.01	-	0.020
K	12.7	-	15.0	0.50	-	0.591
N	2.04	-	2.66	0.08	-	0.105
P	1.80	-	2.30	0.07	-	0.091
V	4.10	-	4.50	0.16	-	0.177

Mechanical Dimensions SOT-223



SYMBOL	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.05	0.06	0.071
A1	0.01	0.06	0.10	0.00	0.00	0.004
B	2.9	3.0	3.1	0.11	0.11	0.122
B1	0.6	0.7	0.8	0.02	0.02	0.031
C	0.22	0.26	0.32	0.00	0.01	0.013
D	6.3	6.5	6.7	0.24	0.25	0.264
E	3.3	3.5	3.7	0.13	0.13	0.146
F		4.6			0.18	
F1		2.3			0.09	
G	0.7	0.9	1.1	0.02	0.03	0.043
H	1.50	1.5	2.0	0.05	0.06	0.079
J	6.7	7.0	7.3	0.26	0.27	0.287
K	0.8	0.9	1.0	0.03	0.03	0.039

Ratings and Characteristics Curves

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

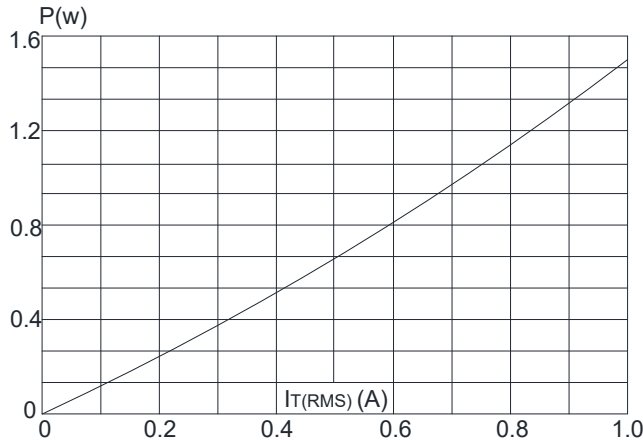


FIG.2: RMS on-state current versus case temperature

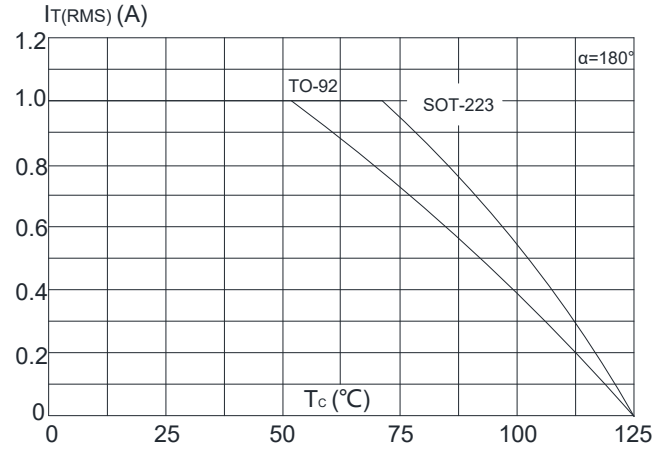


FIG.3: Surge peak on-state current versus number of cycles

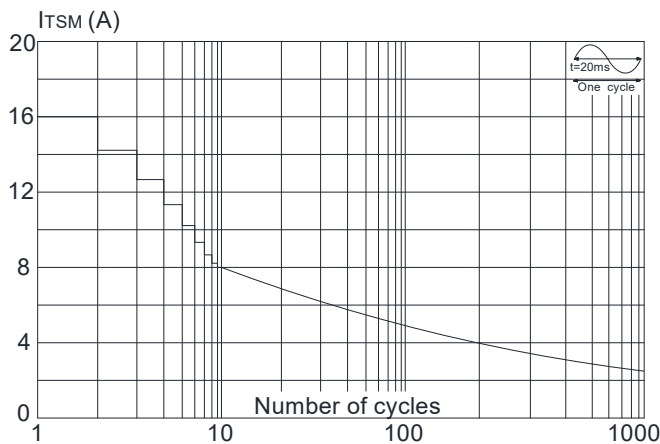


FIG.4: On-state characteristics (maximum values)

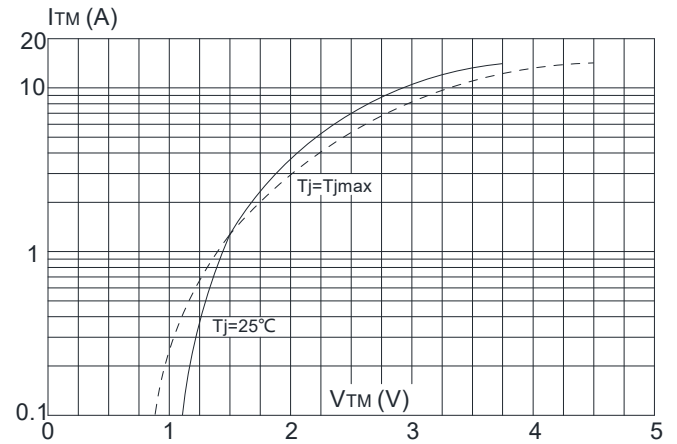


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$ and corresponding value of I^2t ($di/dt < 20\text{A}/\mu\text{s}$)

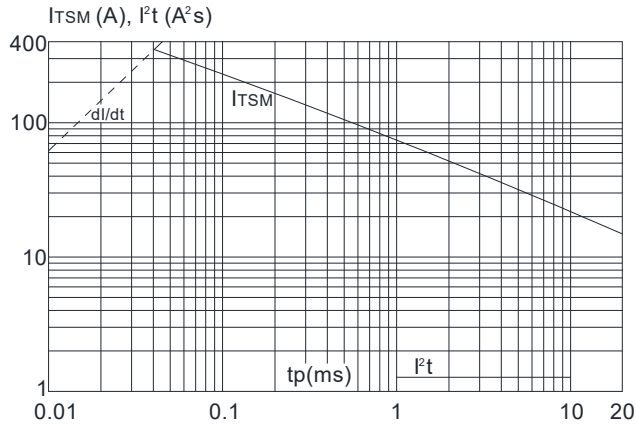
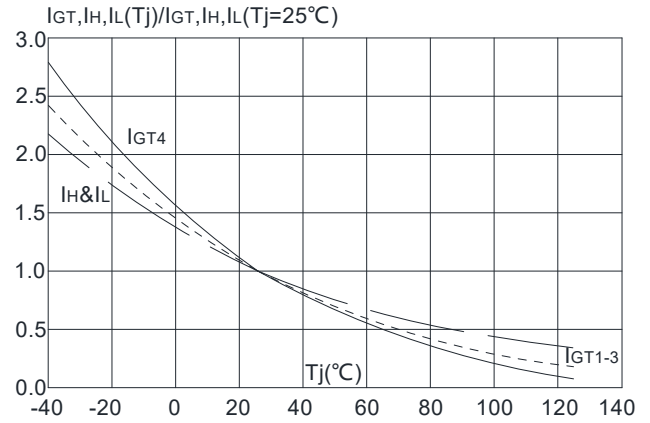


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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