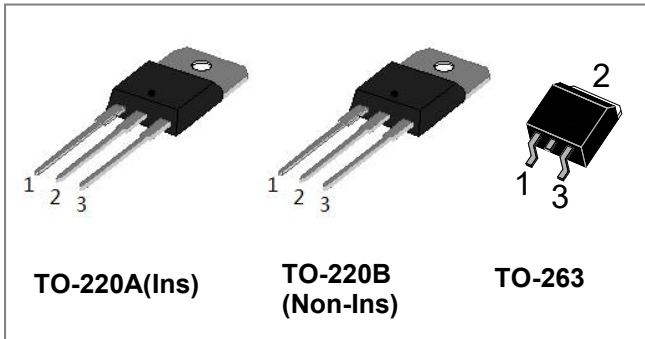
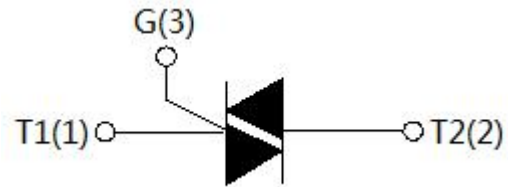


SST24 Series 25A TRIACs



Circuit Diagram



Description

With high ability to withstand the shock loading of large current, SST24 series triacs provide high dv/dt rate with strong resistance to electromagnetic interference. With high commutation performances, 3 quadrants products especially recommended focus on inductive 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}	-	800	V
Repetitive peak reverse voltage($T_j=25^{\circ}\text{C}$)	V_{RRM}	-	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-220A(Ins)($T_c=75^{\circ}\text{C}$)	25	A
		TO-220B(Non-Ins)($T_c=90^{\circ}\text{C}$)		
		TO-263 ($T_c=70^{\circ}\text{C}$)		
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)	I_{TSM}	-	250	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	-	340	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	-	50	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	-	4	A
Average gate power dissipation	$P_{G(AV)}$	-	1	W
Peak gate power	P_{GM}	-	10	W

Electrical Characteristics($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				BW	CW	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	50	35	mA
V_{GT}		I - II -III	MAX	1.3		V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}\text{C } R_L=3.3\text{K}\Omega$	I - II -III	MIN	0.2		V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	80	70	mA
		II		100	80	
I_H	$I_T=100\text{mA}$		MAX	75	50	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	1000	500	V/ μs

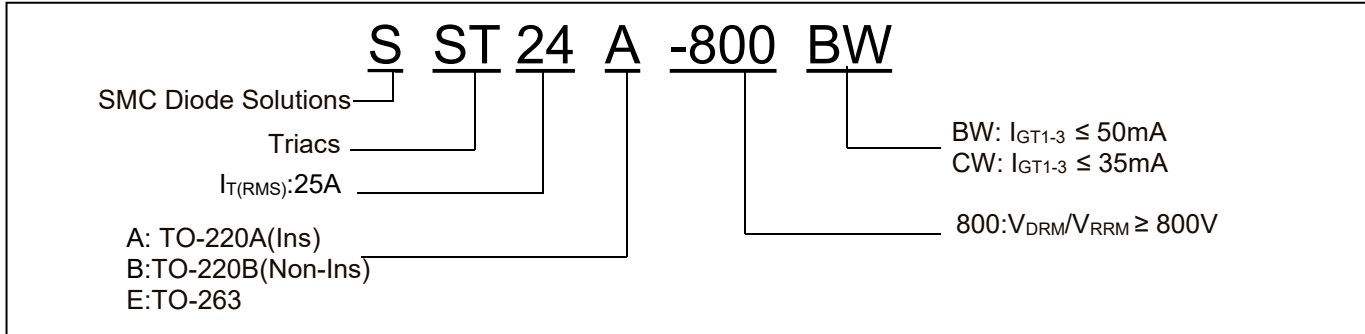
Static Characteristics

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=35\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$	3	mA

Thermal Resistances

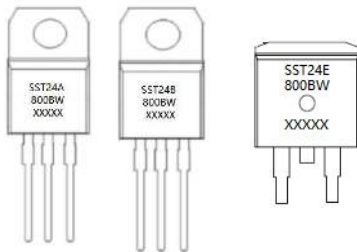
Symbol	Condition		Value	Units
$R_{th(j-c)}$	Junction to case(AC)	TO-220A(Ins)	1.5	$^{\circ}\text{C}/\text{W}$
		TO-220B(Non-Ins)	1.1	$^{\circ}\text{C}/\text{W}$
		TO-263	2.1	$^{\circ}\text{C}/\text{W}$

Ordering Information



Device	Package	Shipping
SST24A-800CW, SST24A-800BW	TO-220A(Ins)	50pcs/ Tube
SST24B-800CW, SST24B-800BW	TO-220B(Non-Ins)	50pcs/ Tube
SST24E-800CW, SST24E-800BW	TO-263	800pcs/ Tape

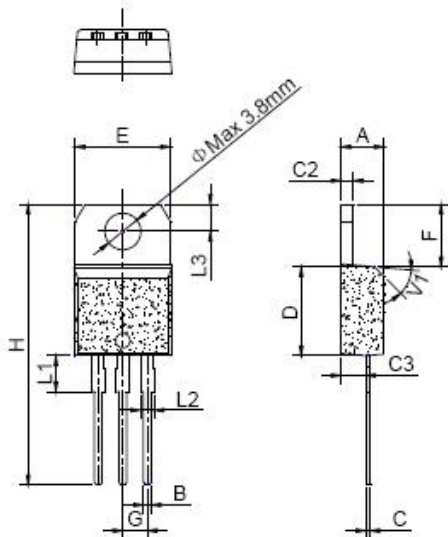
Marking Diagram



Where XXXXX is YYWWL

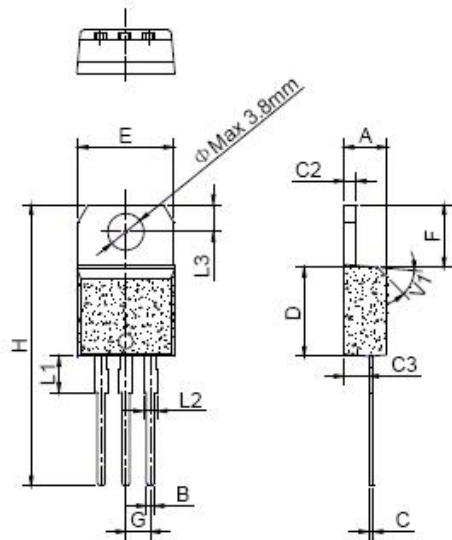
SST24A-800BW = Part name
SST24B-800BW = Part name
SST24E-800BW = Part name
YY = Year
WW = Week
L = Lot Number

Mechanical Dimensions TO-220A(Ins)



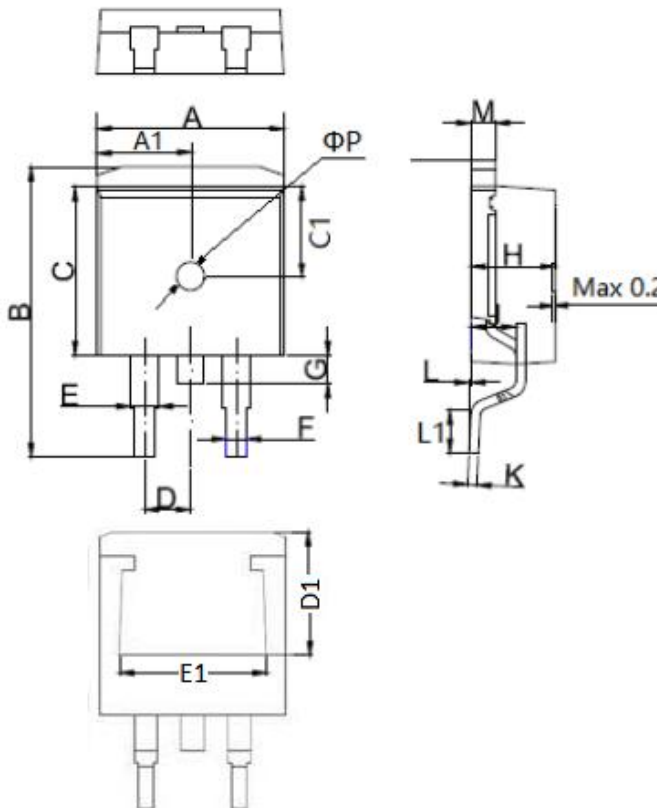
SYMBOL	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

Mechanical Dimensions TO-220B(Non-Ins)



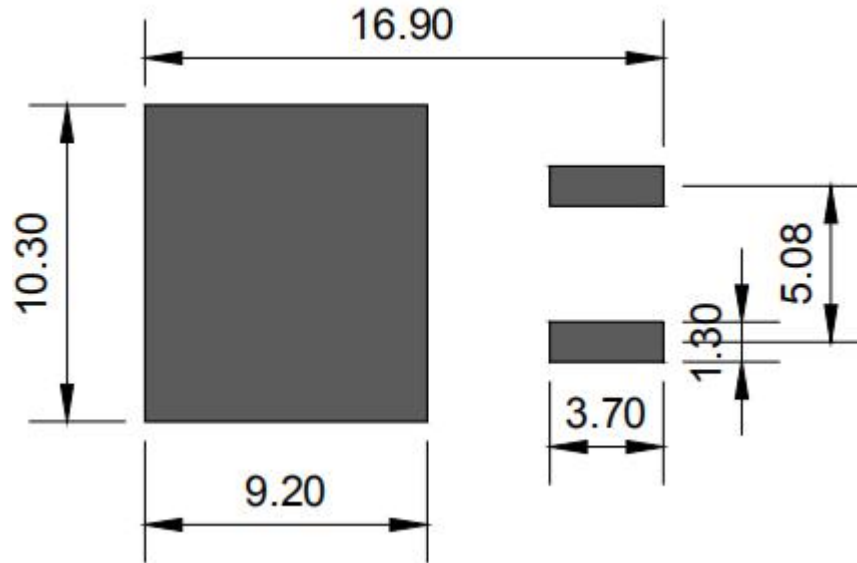
SYMBOL	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

Mechanical Dimensions TO-263



SYMBOL	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
A1	4.95		5.10	0.195		0.201
B	14.70		15.80	0.579		0.622
C	9.40		9.60	0.370		0.378
C1	4.70		4.80	0.185		0.189
D		2.54			0.100	
D1	7.20					
E	1.20		1.40	0.047		0.055
E1	7.60					
F	0.75		0.85	0.029		0.033
G			1.75			0.069
H	4.40		4.70	0.173		0.185
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0	0.10	0.25	0	0.004	0.010
L1	2.24		2.84	0.088		0.112
ΦP	1.00		1.50	0.039		0.059
M	1.25		1.35	0.049		0.053

Foot Print TO-263 (dimensions in mm)



Ratings and Characteristics Curves

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

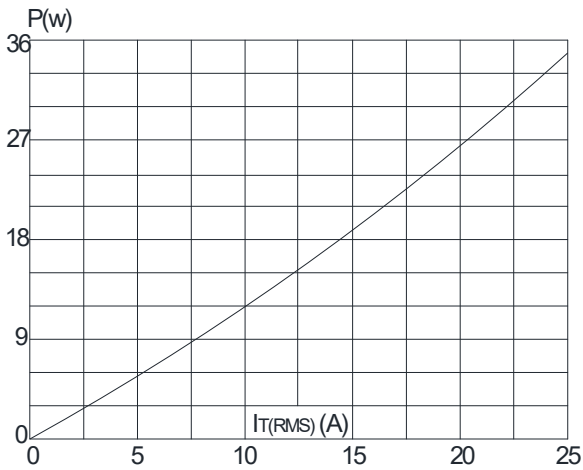


FIG.2: RMS on-state current versus case temperature

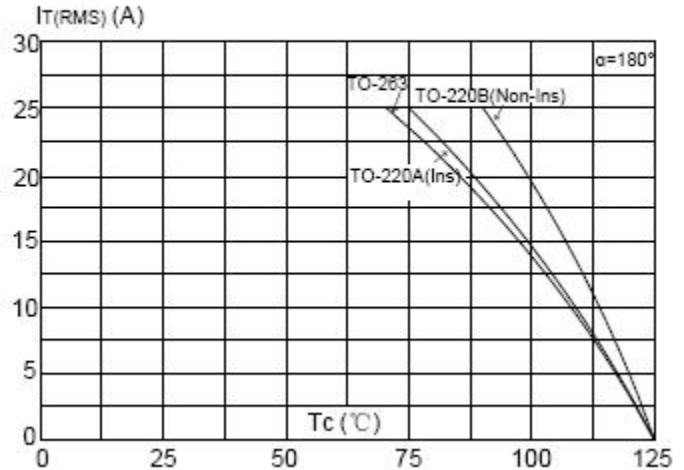


FIG.3: Surge peak on-state current versus number of cycles

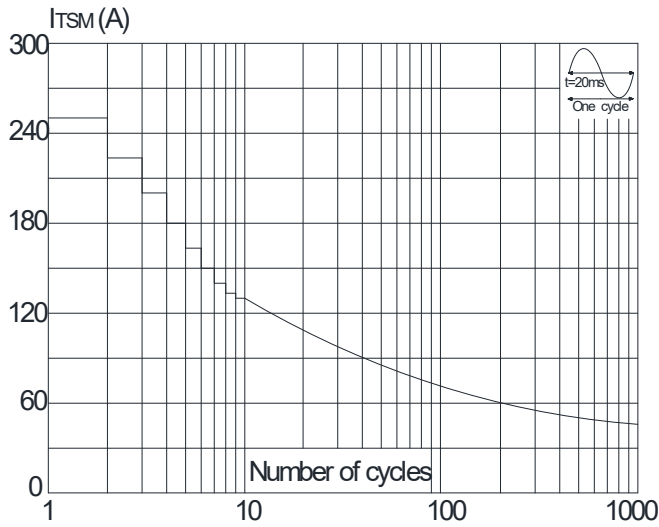


FIG.4: On-state characteristics (maximum values)

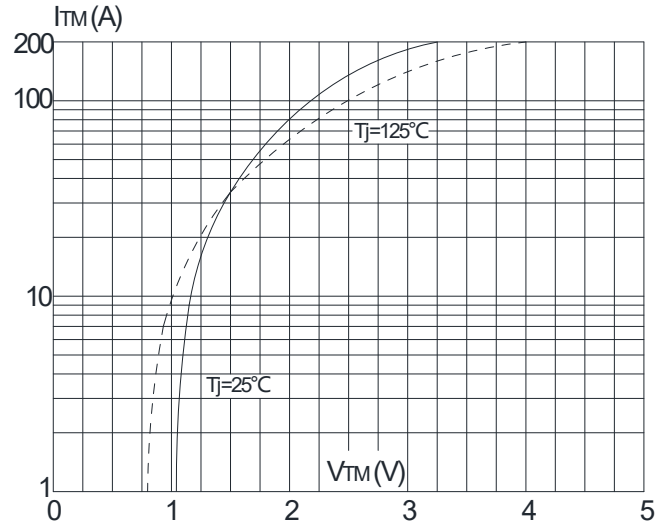


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

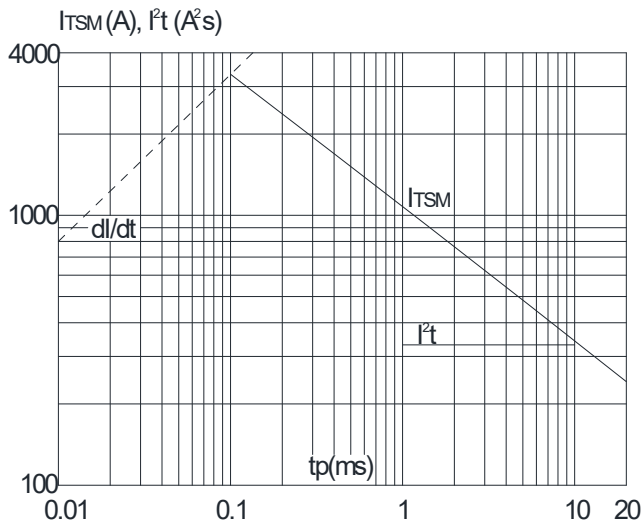
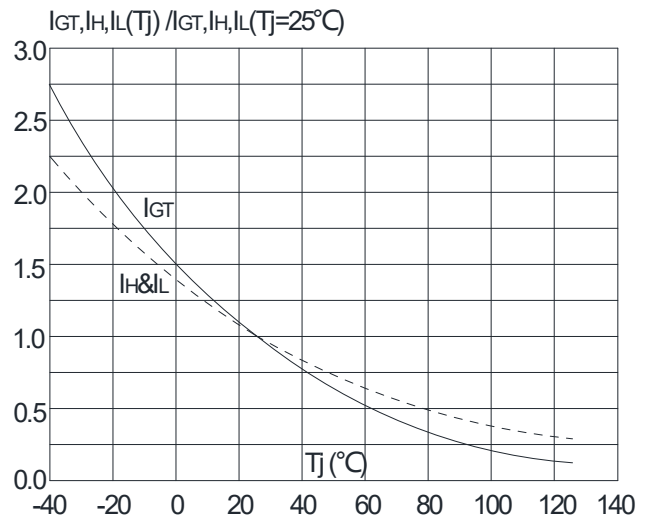


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



Technical Data
Data Sheet N2167, Rev.-



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