Technical Data
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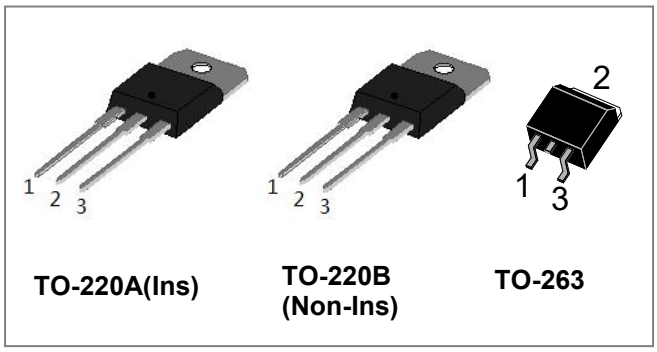
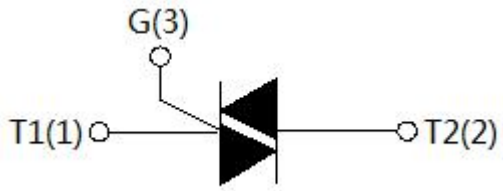
SST24 Series 25A TRIACs



TO-220A(Ins) TO-220B (Non-Ins) TO-263

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 interface. 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	℃
Operating junction temperature range	T_j	-	-40-125	℃
Repetitive peak off-state voltage(T_j=25℃)	V_{DRM}	-	800	V
Repetitive peak reverse voltage(T_j=25℃)	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℃) TO-220B(Non-Ins)(T_C=90℃) TO-263 (T_C=70℃)	25	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	-	250	A
I^2t value for fusing (tp=10ms)	I^2t	-	340	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT})	dI/dt	-	50	A/μs
Peak gate current	I_{GM}	-	4	A
Average gate power dissipation	$P_{G(AV)}$	-	1	W
Peak gate power	P_{GM}	-	10	W

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Electrical Characteristics(Tj=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				BW	CW	
I_{GT}	V_D =12V R_L =33Ω	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℃ R_L =3.3KΩ	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 =100mA		MAX	75	50	mA
dV/dt	V_D=2/3V_{DRM} Gate Open T_j =125℃		MIN	1000	500	V/μs

Static Characteristics

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_{TM} =35A tp=380μs	T_j=25℃	1.5	V
I_{DRM}	V_D =V_{DRM} V_R =V_{RRM}	T_j=25℃	5	μA
I_{RRM}		T_j=125℃	3	mA

Thermal Resistances

Symbol	Condition		Value	Units
Rth(j-c)	Junction to case(AC)	TO-220A(Ins)	1.5	℃/W
		TO-220B(Non-Ins)	1.1	℃/W
		TO-263	2.1	℃/W

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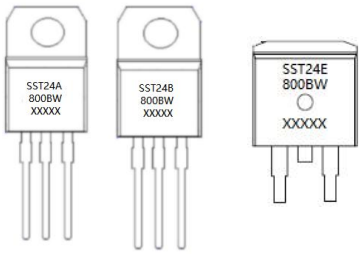
Ordering Information

S ST 24 A -800 BW

- S: SMC Diode Solutions
- ST: Triacs
- 24: $I_{T(RMS)}$:25A
- A: TO-220A(Ins); B:TO-220B(Non-Ins); E:TO-263
- -800: 800:V_{DRM}/V_{RRM} ≥ 800V
- BW: I_{GT1-3} ≤ 50mA; CW: I_{GT1-3} ≤ 35mA

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

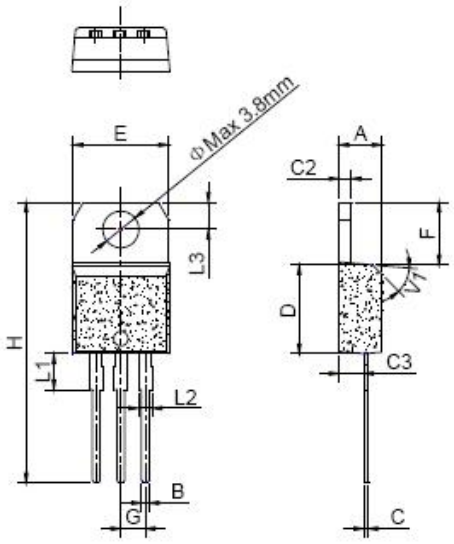
Marking Diagram



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°	

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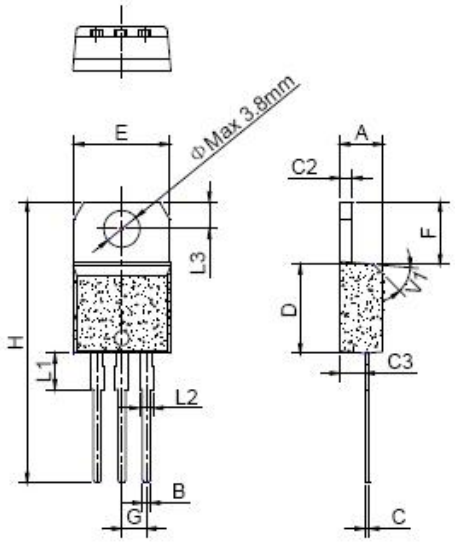
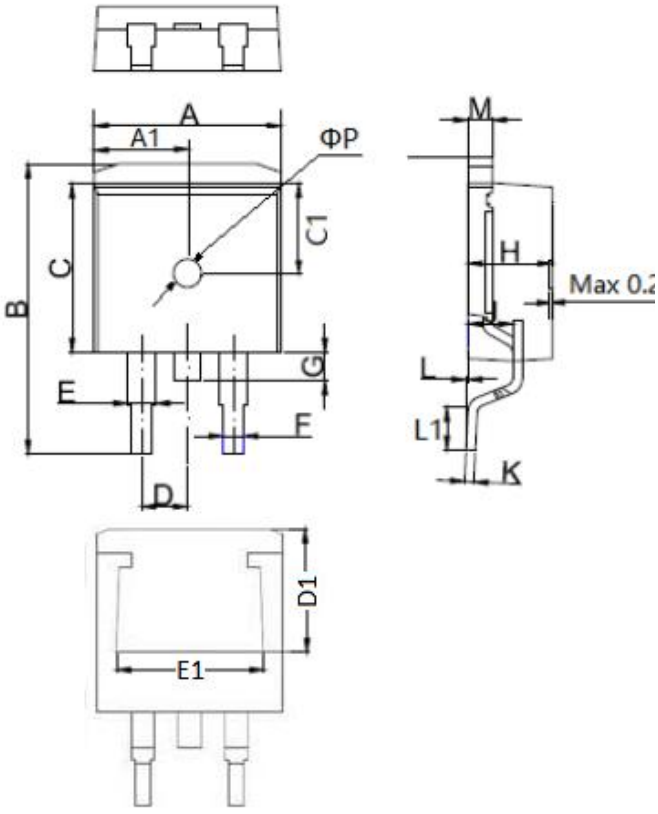
Mechanical Dimensions TO-220B(Non-Ins)



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

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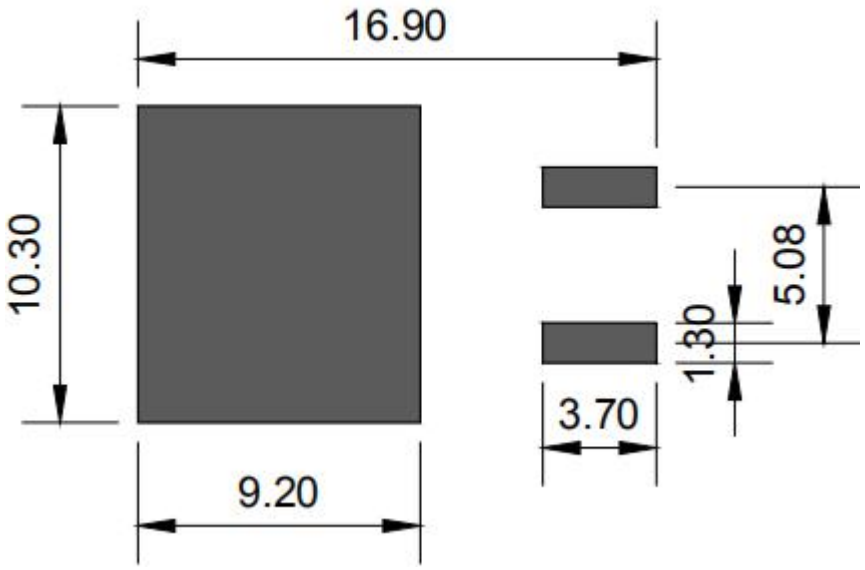
Foot Print TO-263 (dimensions in mm)



Ratings and Characteristics Curves

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

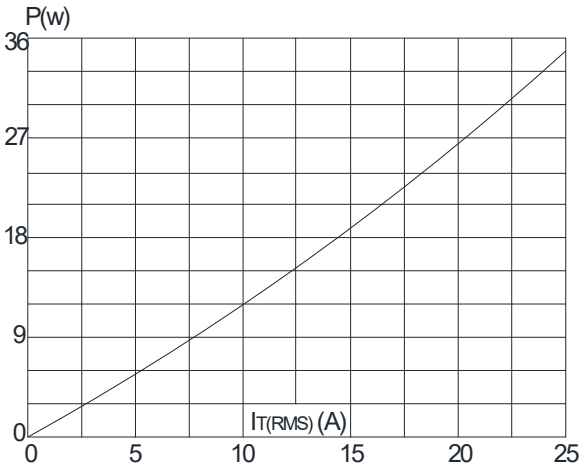


FIG.2: RMS on-state current versus case temperature

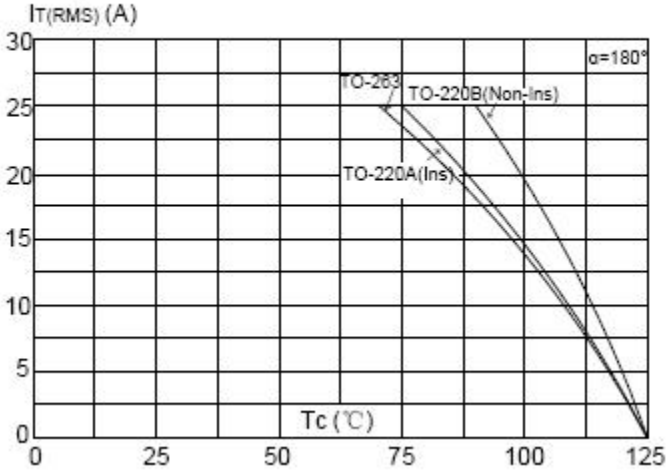


FIG.3: Surge peak on-state current versus number of cycles

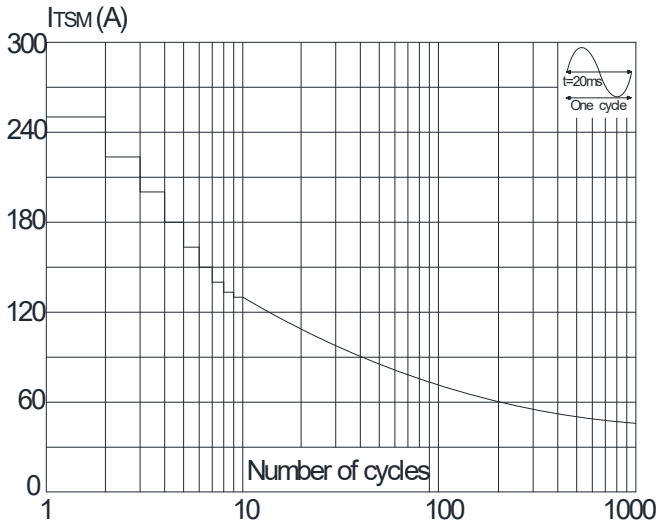


FIG.4: On-state characteristics (maximum values)

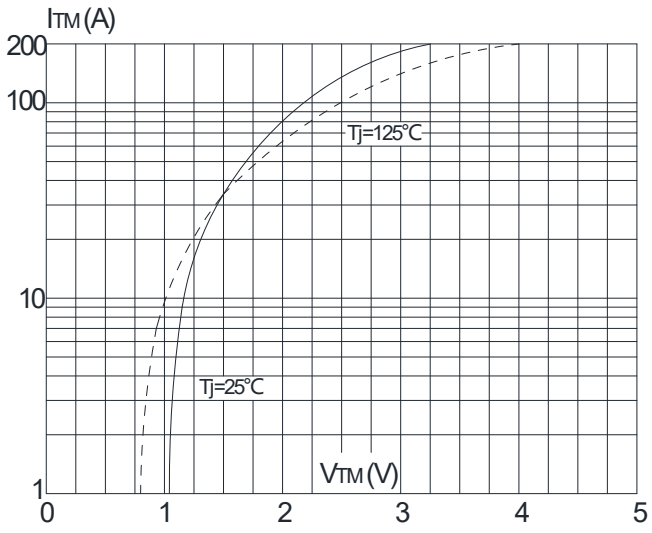


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 50A/µs)

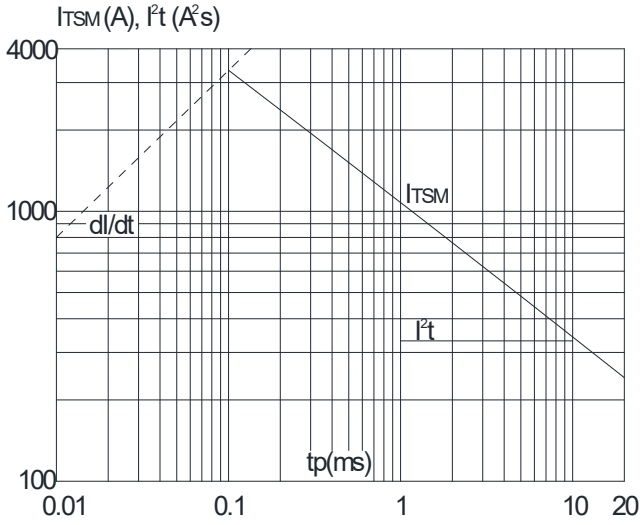
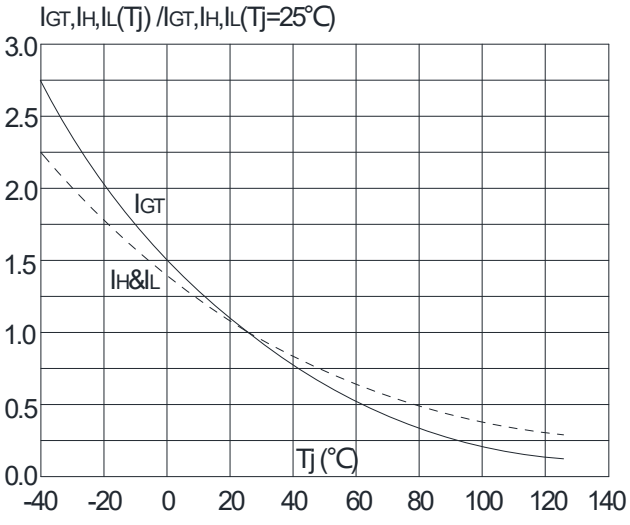


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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