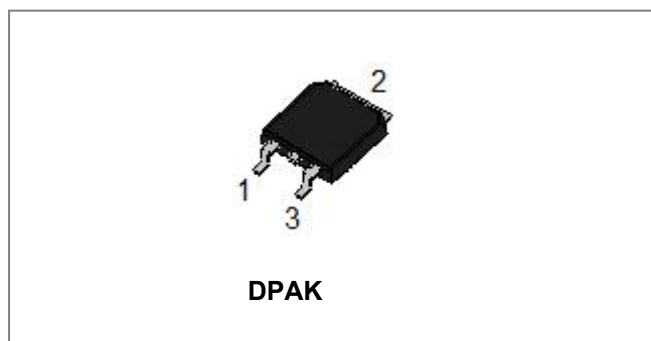
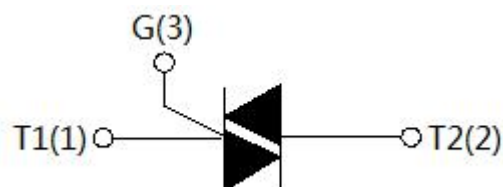


SST04K-800SW 4A TRIACs



Circuit Diagram



Description

With high ability to withstand the shock loading of large current, SST04K-800SW triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 quadrants products especially recommended for use 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-252-4R ($T_c=86^{\circ}\text{C}$)	4	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	-	40	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	-	8	A ² s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt		50	A/ μs
Peak gate current	I_{GM}	-	4	A
Average gate power dissipation	P_{GM}	-	1	W
Peak gate power	$P_{G(AV)}$	-	5	W

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

Symbol	Test Condition	Quadrant		Value	Unit
				SW	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	10	mA
V_{GT}		I - II -III	MAX	1.5	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	20	mA
		II		35	mA
I_H	$I_T=100\text{mA}$		MAX	15	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	100	V/ μA

Static Characteristics

Symbol	Condition	Max.	Units
V_{TM}	$I_T=5.5\text{A } t_p=380\mu\text{s}, T_j=25^\circ\text{C}$	1.6	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}, T_j=25^\circ\text{C}$	5	μA
I_{RRM}	$V_D=V_{DRM} V_R=V_{RRM}, T_j=125^\circ\text{C}$	0.5	mA

Thermal Resistances

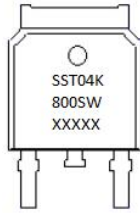
Symbol	Condition		Value	Units
$R_{th(j-c)}$	Junction to case(AC)	TO-220C	2.5	$^\circ\text{C/W}$
		DPAK	2.8	

Ordering Information

SMC Diode Solutions		<u>S</u>	<u>ST</u>	<u>04</u>	<u>K</u>	<u>-800</u>	<u>SW</u>	
Triacs								SW: $I_{GT1-3} \leq 10\text{mA}$
$I_{T(RMS)}:4\text{A}$								
K: DPAK								800: $V_{DRM}/V_{RRM} \geq 800\text{V}$

Device	Package	Shipping
SST04K-800SW	DPAK	2500pcs/ Reel

Marking Diagram



Where XXXXX is YYWWL

SST04K-800SW = Part name
YY = Year
WW = Week
L = Lot Number

Ratings and Characteristics Curves

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

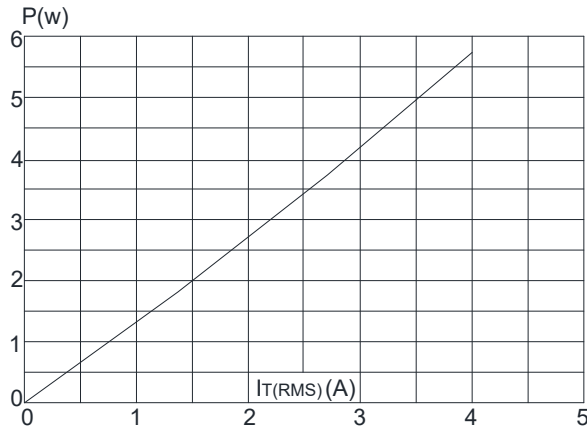


FIG.2: RMS on-state current versus case temperature

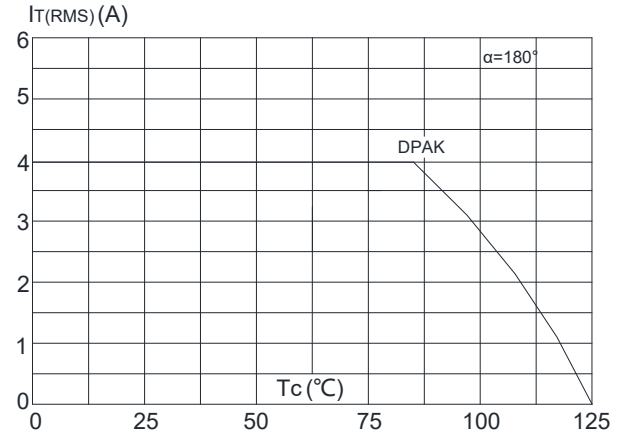


FIG.3: Surge peak on-state current versus number of cycles

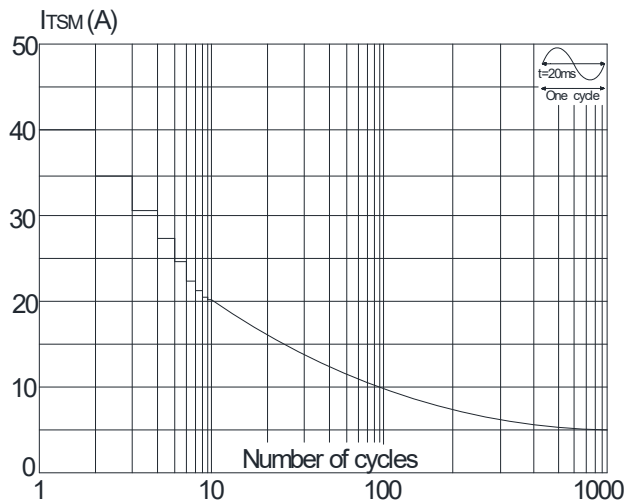
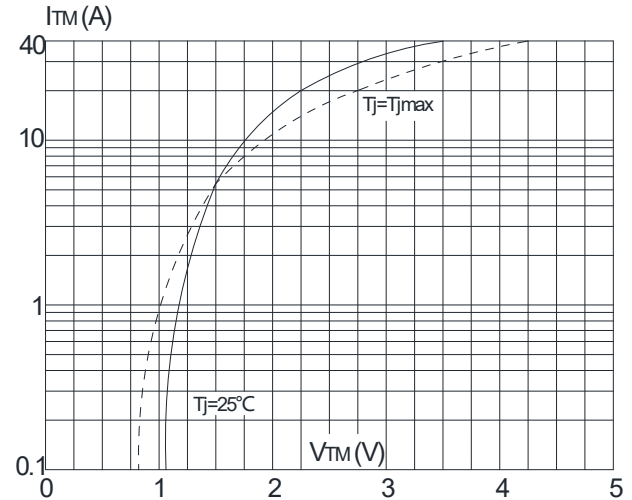


FIG.4: On-state characteristics (maximum values)



Technical Data
Data Sheet N2078, Rev.-



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 ($di/dt < 50\text{A}/\mu\text{s}$)

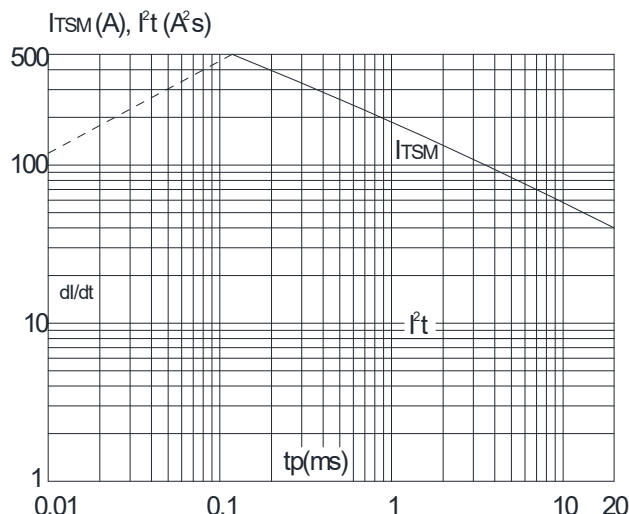
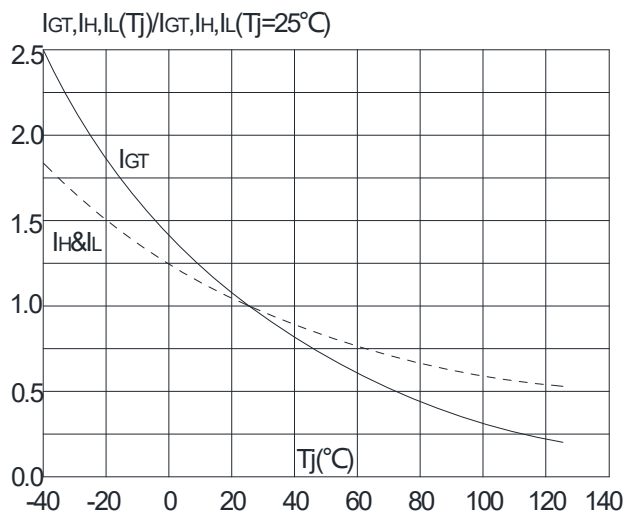


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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