



JST08E-600BW 8A TRIAC

Rev.A.1.1

DESCRIPTION:

The ST08E-600BW triac is suitable for general purpose AC switch. It can be used as a ON/OFF function in a number of applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controller. The JST08E subless triac is especially recommended for use on inductive loads. Package TO-18 is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
V_{DRM} / V_{RRM}	600	V
$I_{GT} / /$	50 / 50 / 50	mA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage	T_{st}	-40 to 150	°C
Operating	T_j	-40 to 150	°C
Repetitive steady state voltage (T=25°C)	V_{DRM}	600	V
Repetitive peak reverse voltage (T=25°C)	V_{RRM}	600	V
RMS on-state current (T=107°C)	$I_{T(RMS)}$	8	A
Non-repetitive surge current (full cycle = 40ms, T=25°C)	I_{TSM}	80	A
Non-repetitive surge current (full cycle = 16.6ms, T=25°C)		88	
Integral for fusing (t=10ms, T=25°C)	$I^2 t$	32	A ² s
Critical rate of rise of state current ($I_G = 2 \times I_{GT}$, f=100Hz, T=25°C)	di/dt	100	A/s
Peak state current (t=40μs, T=25°C)	I_{GM}	4	A
Average power dissipation (T=25°C)	$P_{G(AV)}$	0.5	W
Peak power	P_{GM}	10	W

Peak pulse voltage ($T=25^{\circ}\text{C}$; otherwise specify)	V_p	2.5	kV
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ELECTRICAL CHARACTERISTICS (unless otherwise specified)

Symbol	Test Condition	Quadrant	Value	Unit	
I_{GT}	$V_D=12\text{V}$ $R_s=33\Omega$	- -	MAX.	50	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T=25^{\circ}\text{C}$ $R_s=3.3\Omega$	- -	MIN.	0.2	V
I_L	$I_G=1 \cdot I_{GT}$	-	MAX.	50	mA
				90	
I_H	$I_T=100\text{mA}$		MAX.	50	mA
dV/dt	$V_D=400\text{V}$ Gate $I_p T=25^{\circ}\text{C}$		MIN.	2000	V/s
$(dI/dt)_c$	$(dV/dt)_c=20\text{V}/\mu\text{s}$, $T=25^{\circ}\text{C}$		MIN.	12	A/ms
t_b	$I_G=80\text{mA}$ $I_A=400\text{mA}$ $I_R=40\text{mA}$ $T=25^{\circ}\text{C}$		TYP.	5	s
t_{ff}			P	50	

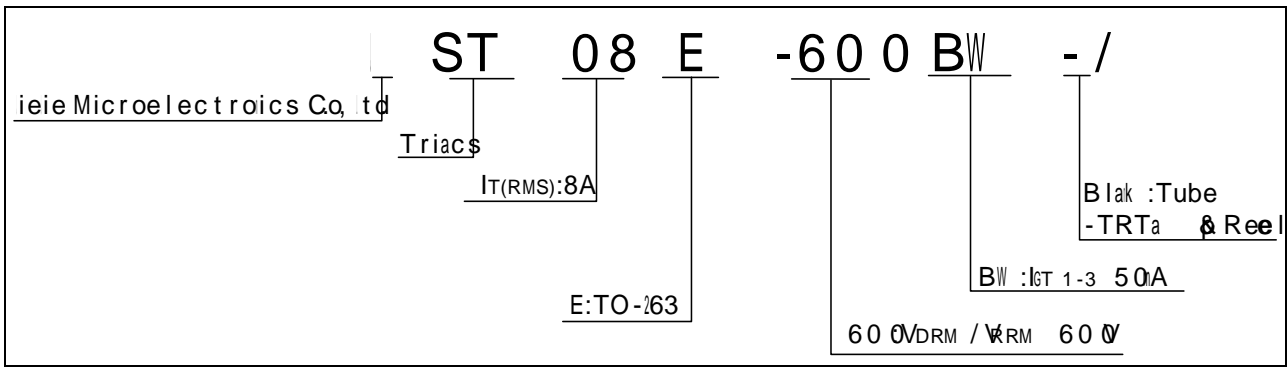
STATIC CHARACTERISTICS

Symbol	Parameter	Value(MAX.)	Unit	
V_{TM}	$I_{TM}=11\text{A}$ $t=380\text{s}$ $T=25^{\circ}\text{C}$	1.5	V	
V_{TO}	Threshold voltage $T=25^{\circ}\text{C}$	0.8	V	
R_D	Dynamic resistance $T=25^{\circ}\text{C}$	44	m	
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T=25^{\circ}\text{C}$	5	A
I_{RRM}		$T=25^{\circ}\text{C}$	0.25	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(c)}$	θ_{jc}	1.6	/W
$R_{th(a)}$	θ_{ja} , in free air, $S=2\text{cm}^2$	45	/W

ORDERING INFORMATION



MARKING

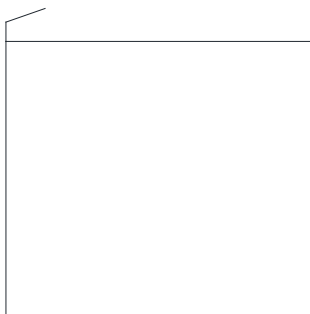


FIG.1: Maximum power dissipation versus RMS on-state current

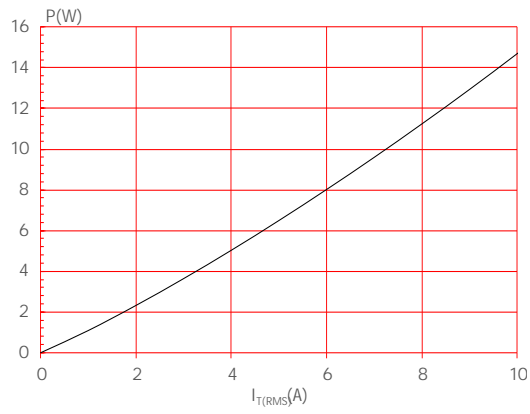


FIG.2: RMS on-state current versus case temperature



FIG.7: Relative variations of gate trigger current, hold current and latch current versus

junction temperature

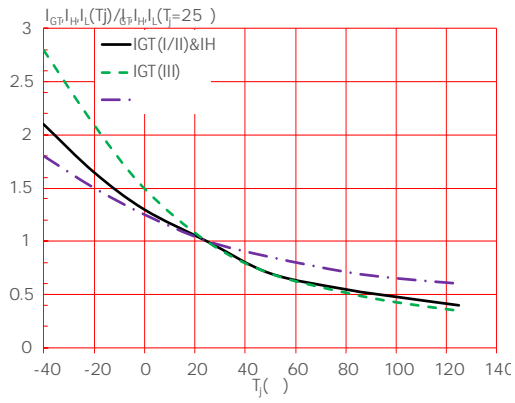
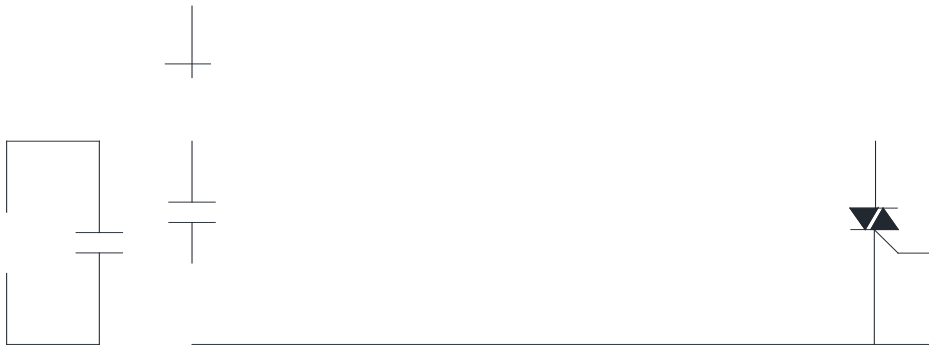


FIG.8 Test circuit for inductive and resistive loads - 600EC054 standards



ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
JST08E-600BW	600	50	TO-263	50	Tube
JST08E-600BW-TR				800	

