



## JST12E-600BW 12A TRIAC

Rev.A.1.1

The JST12E-600BW triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. JST12E-600BW snubberless triac is especially recommended for use on inductive loads. Package TO-263 is RoHS compliant.

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40-150	
Operating junction temperature range	$T_j$	-40-125	
Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	600	V

Peak pulse voltage ( $T_j=25$ ; non-repetitive, off-state; FIG.8)	$V_{pp}$	4.5	kV
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( $T_j=25$  unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
$I_{GT}$	$V_D=12V R_L=33$	- -	MAX.	50	mA
$V_{GT}$		- -	MAX.	1	V
$V_{GD}$	$V_D=V_{DRM} T_j=125$ $R_L=3.3k$	- -	MIN.	0.2	V
$I_L$	$I_G=1.2I_{GT}$	-	MAX.	70	mA
				90	
$I_H$	$I_T=500mA$		MAX.	50	mA
dV/dt	$V_D=400V$ Gate Open $T_j=125$		MIN.	2000	V/ $\mu s$
(dI/dt)c	(dV/dt)c=20V/ $\mu s$ $T_j=125$		MIN.	20	A/ms
$t_{on}$	$I_G=80mA I_A=400mA I_R=40mA$ $T_j=25$		TYP.	5	$\mu s$
$t_{off}$				50	

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM}=17A t_p=380\mu s$	$T_j=25$	1.5	V
$V_{TO}$	Threshold voltage	$T_j=125$	0.77	V
$R_D$	Dynamic resistance	$T_j=125$	35	m
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	$\mu A$
$I_{RRM}$		$T_j=125$	0.4	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	1.3	$\text{/W}$
$R_{th(j-a)}$	junction to ambient (AC, in free air, $S=2cm^2$ )	45	$\text{/W}$





**FIG.7:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

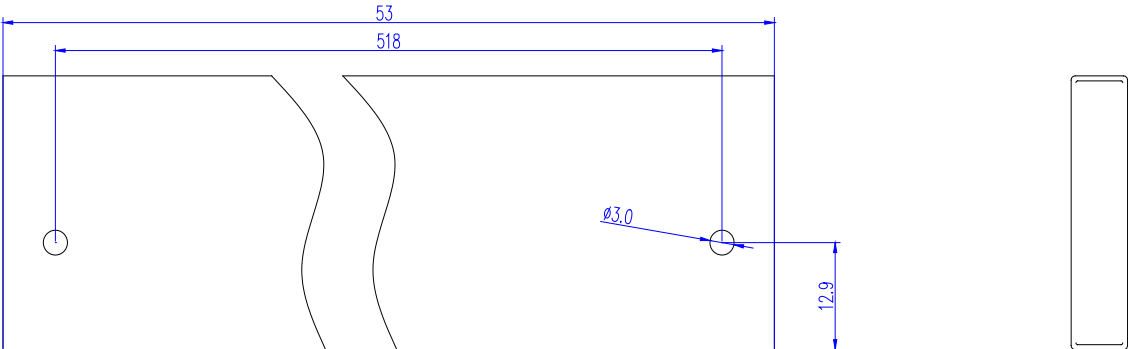


Order code	Voltage V <sub>DRM</sub> /V <sub>RRM</sub> (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
JST12E-600BW	600	50	TO-263	50	Tube
JST12E-600BW-TR				800	Tape& Reel

**Document Revision History**


Date	Revision	Changes
Apr.11, 2023	A.1.0	Last updated
Oct.20, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA





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