



## JST41Z-800B 40A TRIAC

Rev.A.1.1

### DESCRIPTION:

The JST41Z-800B 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. By using an internal ceramic pad, JST41Z-800B provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906). Package TO-3P is RoHS compliant.

### MAIN FEATURES

### ABSOLUTE MAXIMUM RATINGS

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 ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	800	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	800	V
RMS on-state current ( $T_c=81^\circ\text{C}$ )	$I_{T(RMS)}$	40	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I_{TSM}$	420	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$ , $T_j=25^\circ\text{C}$ )		462	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I^2t$	1000	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 \cdot I_{GT}$ , $f=100\text{Hz}$ , $T_j=25^\circ\text{C}$ )	$di/dt$	100	$\text{A}/\mu\text{s}$

Peak pulse voltage ( $T_j=25$ ; non-repetitive, off-state; FIG.7)	$V_{pp}$	0.9	kV
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**ELECTRICAL CHARACTERISTICS** ( $T_j=25$  unless otherwise specified)

Symbol	Test Condition	Quadrant	Value	Unit	
$I_{GT}$	$V_D=12V$ $R_L=33$	- -	MAX.	50	mA
				70	
$V_{GT}$		ALL	MAX.	1.3	V
$V_{GD}$	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3k$	ALL	MIN.	0.2	V
$I_L$	$I_G=1.2I_{GT}$	- -	MAX.	80	mA
				160	
$I_H$	$I_T=500mA$		MAX.	80	mA
$dV/dt$	$V_D=540V$ Gate Open $T_j=125$		MIN.	1200	V/ $\mu s$
( $dV/dt$ ) <sub>c</sub>	( $dI/dt$ ) <sub>c</sub> =20A/ms, $T_j=125$		MIN.	20	V/ $\mu s$
$t_{on}$	$I_G=80mA$ $I_A=400mA$ $I_R=40mA$ $T_j=25$		TYP.	10	$\mu s$
$t_{off}$				70	

**STATIC CHARACTERISTICS**

Symbol	Parameter	Value(MAX.)	Unit	
$V_{TM}$	$I_{TM}=60A$ $t_p=380\mu s$ $T_j=25$	1.4	V	
$V_{TO}$	Threshold voltage $T_j=125$	0.73	V	
$R_D$	Dynamic resistance $T_j=125$	10	m	
$I_{DRM}$	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	$\mu A$
$I_{RRM}$		$T_j=125$	5	mA

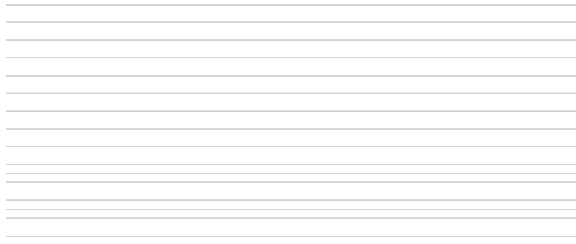
**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	0.85	/W
$R_{th(j-a)}$	junction to ambient (AC)	50	/W

ORDERING INFORMATION

J ST 41 Z -800 B <

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



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

FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



**ORDERING INFORMATION**

Order code	Voltage $V_{DRM}/V_{RRM}$ (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		-	-			
<b>JST41Z-800B</b>	<b>800</b>	<b>50</b>	<b>70</b>	<b>TO-3P(Ins)</b>	<b>30</b>	<b>Tube</b>

**Document Revision History**


Date	Revision	Changes
Apr.14, 2023	A.1.0	Last update
Oct.17, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

PACKAGE MECHANICAL DATA



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