

**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	°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
RMS on-state current ($T_c \leq 81^\circ\text{C}$)	$I_{T(RMS)}$	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	A^2s
Critical rate of rise of on-state current ($I_G=2\text{mA}$, $f=100\text{Hz}$, $T_j=25^\circ\text{C}$)	di/dt	100	$\text{A}/\mu\text{s}$

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

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

STATIC CHARACTERISTICS

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

THERMAL RESISTANCES

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

ORDERING INFORMATION



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

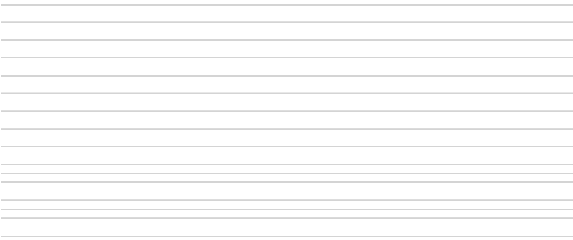


FIG.2: RMS on-state current versus case temperature



ORDERING INFORMATION

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

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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