



JST137C-800FX 8A TRIACs

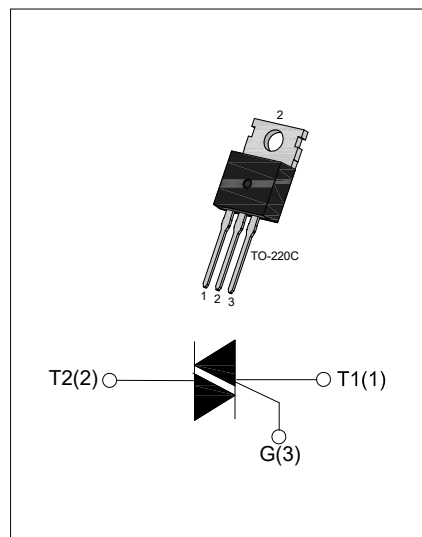
Rev.1

DESCRIPTION:

JST137C-800FX triacs with low holding and latching current are especially recommended for use on middle and small resistance type power load.complying with UL standards (File ref: E252906).TO-220C package is RoHS compliant (2011/65/EU).

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
V_{DRM}/V_{RRM}	800	V



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
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	TO-220C ($T_C=100^{\circ}\text{C}$)	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)		I_{TSM}	65	A
I^2t value for fusing ($t_p=10\text{ms}$)		I^2t	21	A^2s
Peak gate current		I_{GM}	4	A
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)		di/dt	120	$\text{A}/\mu\text{s}$
Average gate power dissipation		$P_{G(AV)}$	0.5	W
Peak gate power		P_{GM}	5	W

ELECTRICAL CHARACTERISTICS ($T_J=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value			Unit
			Min.	Typ.	Max.	
I_{GT}	$V_D=12\text{V}$ $R_L=30\Omega$	I - II -III		-	70	mA
V_{GT}		ALL	-	-	1.3	V
V_{GD}	$V_D=V_{DRM}$ $T_J=125^{\circ}\text{C}$ $R_L=3.3\text{K}\Omega$	ALL	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	I -III	-	-	60	mA
		II	-	-	90	
I_H	$I_T=100\text{mA}$		-	-	50	mA
dv/dt	$V_D=2/3V_{DRM}$ Gate Open $T_J=125^{\circ}\text{C}$		1000	-	-	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=10\text{A}$ $t_p=380\mu\text{s}$	$T_J=25^{\circ}\text{C}$	1.6	V
V_{T0}	Threshold voltage	$T_J=125^{\circ}\text{C}$	0.8	V
R_d	Dynamic resistance	$T_J=125^{\circ}\text{C}$	85	m Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_J=25^{\circ}\text{C}$	10	μA
I_{RRM}		$T_J=125^{\circ}\text{C}$	1	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220C	1.8	$^{\circ}\text{C}/\text{W}$

ORDERING INFORMATION

<u>J</u>	<u>ST</u>	<u>137</u>	<u>C</u>	<u>-800</u>	<u>F</u>	<u>X</u>
JieJie Microelectronics Co.,Ltd	Triacs	$I_T(RMS):8A$	$C:TO-220C$	$800:V_{DRM}/V_{RRM} \geq 800V$	$F:IGT1-3: \leq 70mA$	Special

MARKING

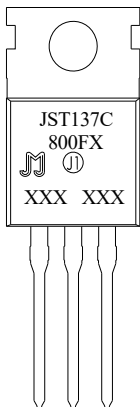
	XXX XXX Year _____ Month _____ Production Code
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FIG.1: Maximum power dissipation versus RMS on-state current

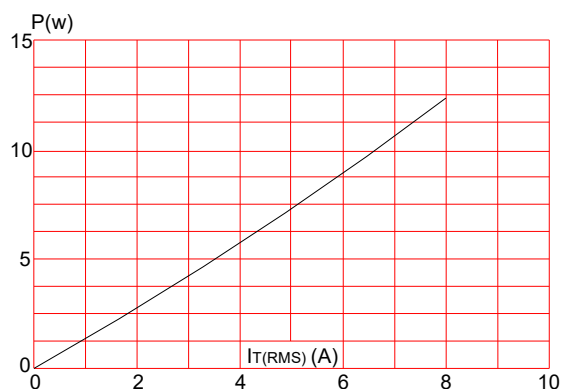


FIG.3: Surge peak on-state current versus number of cycles

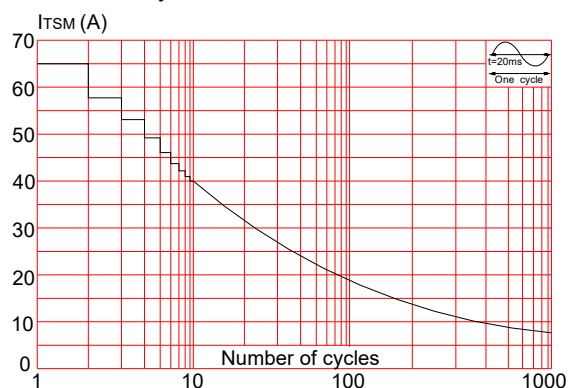


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 120\text{A}/\mu\text{s}$)

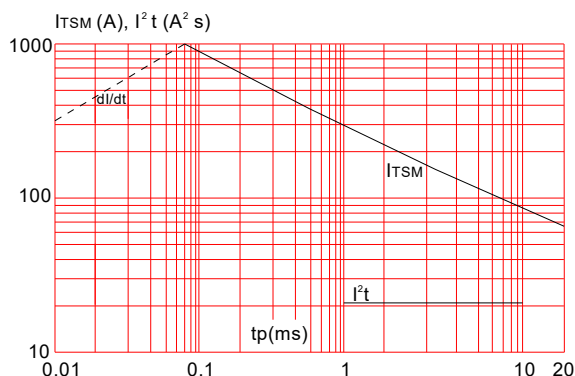


FIG.2: RMS on-state current versus case temperature

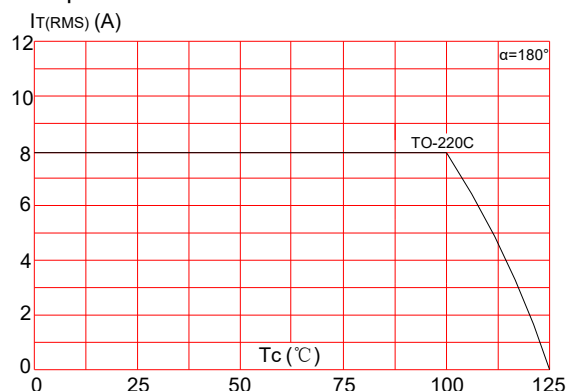


FIG.4: On-state characteristics (maximum values)

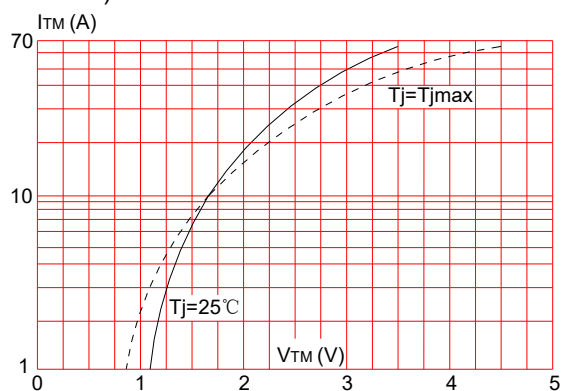


FIG.6: Relative variations of gate trigger current versus junction temperature

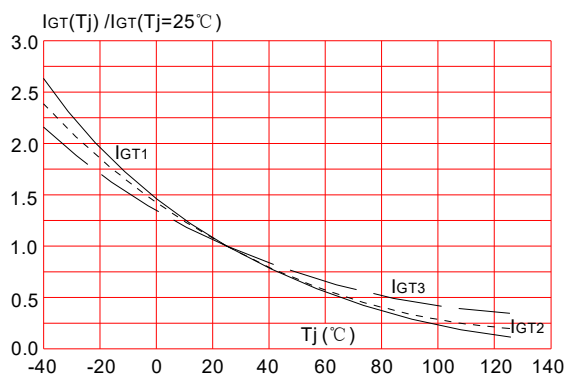
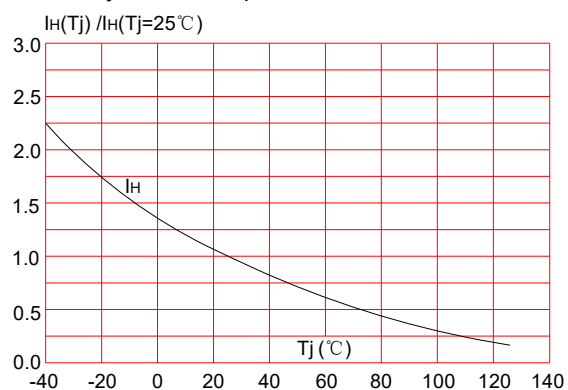
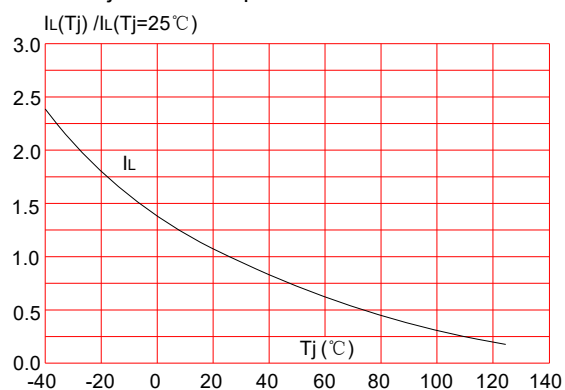


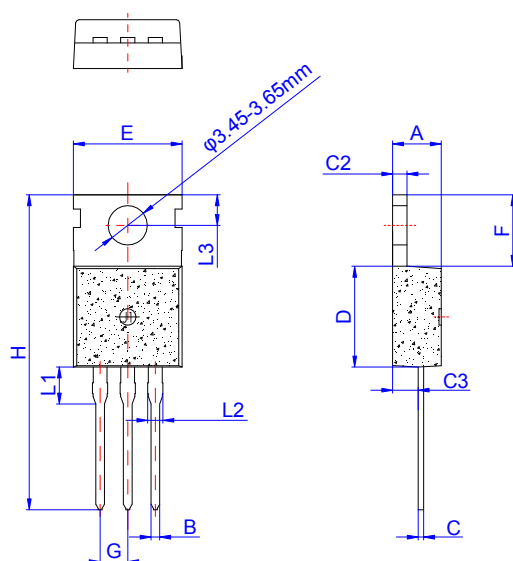
FIG.7: Relative variations of holding current versus junction temperature**FIG.8:** Relative variations of latching current versus junction temperature**ORDERING INFORMATION**

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST137C-800FX	800	70	TO-220C	50	Tube

Document Revision History

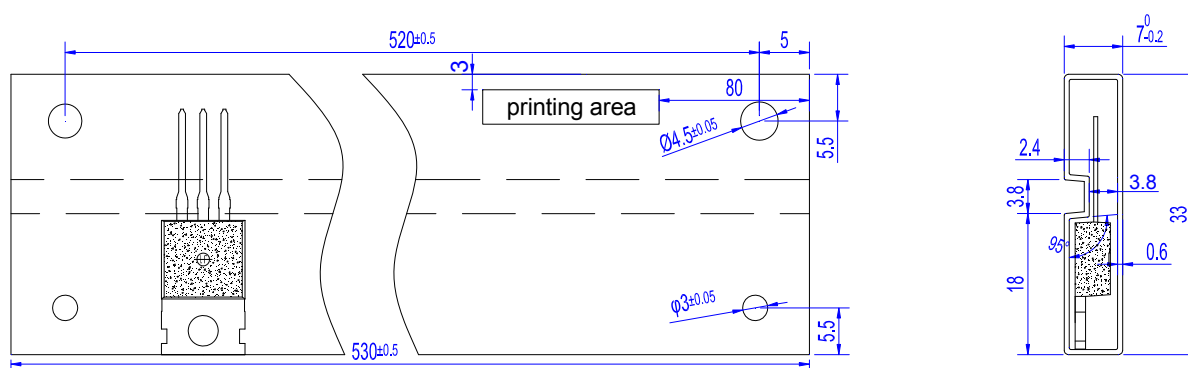
Date	Revision	Changes
Mar 21, 2022	1	Last update

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220C	TUBE	50	1,000	5,000



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