



JCT151E-650R 12A SCR

DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT151E-650R of silicon controlled rectifiers provides high dV/dt rate with strong resistance to electromagnetic interference.

It is especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. Package TO-263 is RoHS compliant

MAIN FEATURES

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T		

Average gate power dissipation ($T_j=125$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage ($T_j=25$; non-repetitive, off-state, FIG.8)	V_{pp}	0.7	kV

ELECTRICAL CHARACTERISTICS (unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12V$ $R_L=33$	-	-	15	mA
V_{GT}		-	-	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3k$	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	40	mA
I_H	$I_T=100mA$	-	-	30	mA
dV/dt	$V_D=436V$ Gate Open $T_j=125$	800	-	-	V/s
t_{on}	$I_G=20mA$ $I_A=200mA$ $I_R=20mA$ $T_j=25$	-	3	-	s
t_{off}		-	50	-	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=23A$ $t_p=380$ s	$T_j=25$	1.6	V
V_{TO}	Threshold voltage	$T_j=125$	0.77	V
R_D	Dynamic resistance	$T_j=125$	27	P
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	A
I_{RRM}		$T_j=125$	0.2	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	1.3	/W
$R_{th(j-a)}$	junction to ambient (DC, in free air, $S=1cm^2$)	50	/W

ORDERING INFORMATION

<u>J</u>	<u>CT</u>	<u>151</u>	<u>E</u>	<u>-650R</u>	<u>-/</u>
JieJie Microelectronics Co., Ltd.	SCRs				Blank:Tube -TR:Tape & Reel
		<u>It(RMS):12A</u>	<u>E:TO-263</u>	<u>650R:VDRM /VRRM ≥ 650V</u>	

MARKING

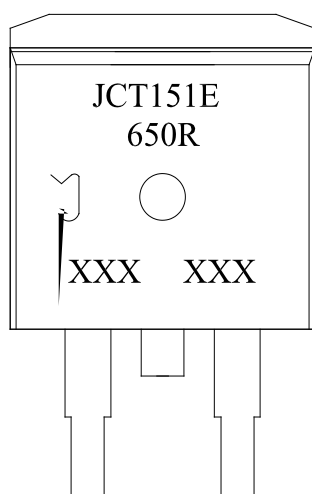


FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

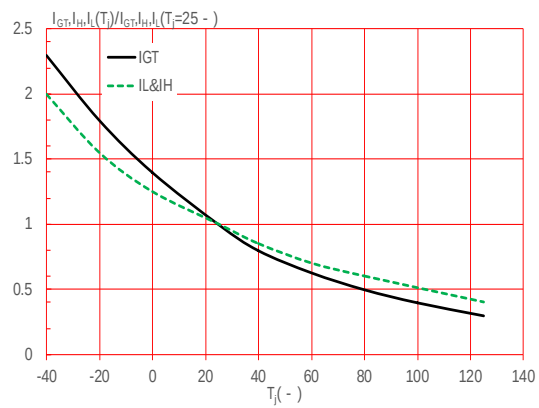
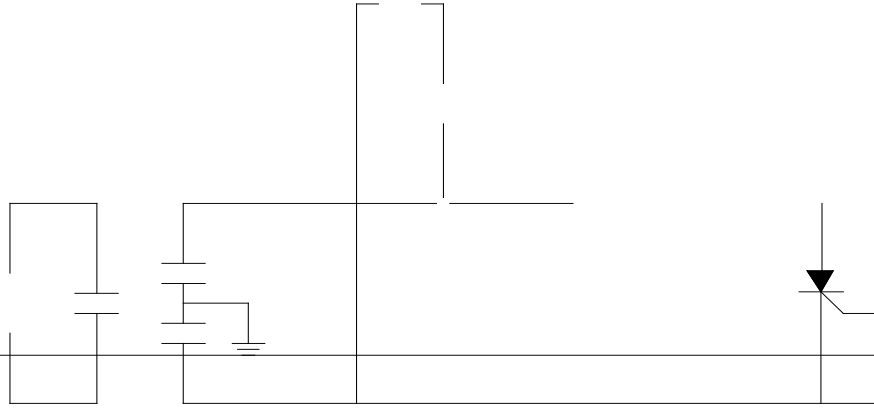


FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



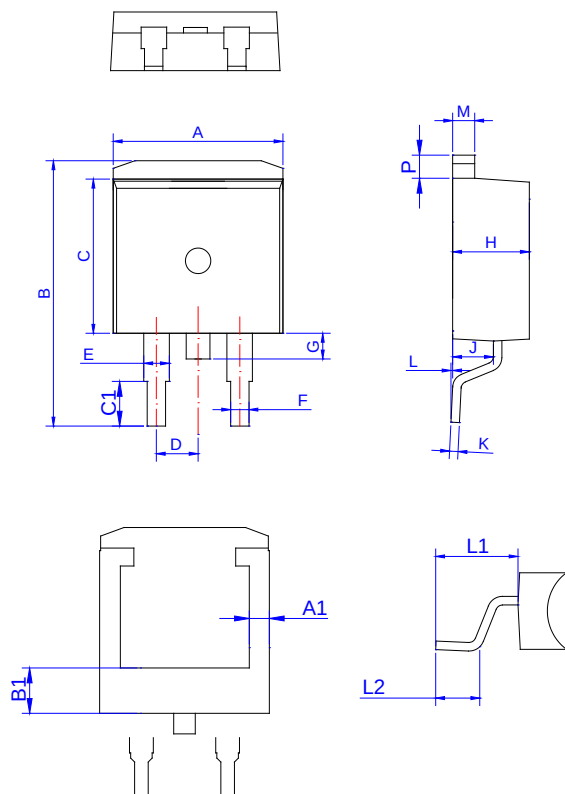
ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT151E-650R	650	15	TO-263	50	Tube
JCT151E-650R-TR				800	Tape & Reel

Document Revision History

Date	Revision	Changes
Apr.12, 2023	A.1.0	Last update
Oct.16, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
B	14.70		15.80	0.579		0.622
C	9.40		9.60	0.370		0.378
D	2.40		2.70	0.094		0.106
E	1.20		1.50	0.047		0.059
F	0.75		0.85	0.029		0.033
G						
H						
J						
KJ						

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