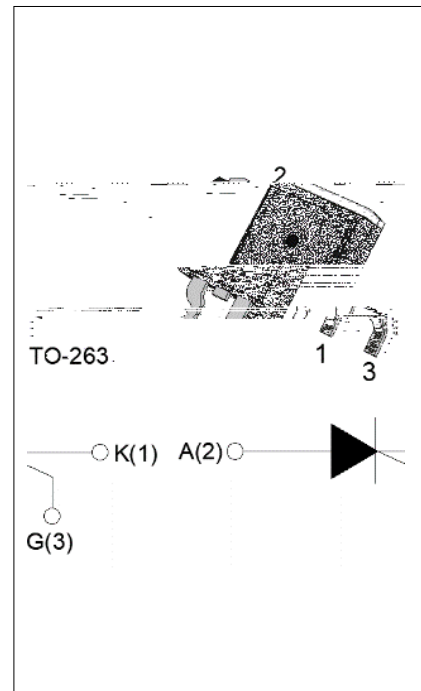




DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT151E-650RH 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

Symbol	Value	Unit
$I_{T(RMS)}$	12	A
V_{DRM}/V_{RRM}	650	V
I_{GT}	15	mA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-150	
Repetitive peak off-state voltage ($T_j=25$)	V_{DRM}	650	V
Repetitive peak reverse voltage ($T_j=25$)	V_{RRM}	650	V
Average on-state current ($T=128$)	$I_{T(AV)}$	7.5	A
RMS on-state current ($T=128$)	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current ($t_p=10ms, T_j=25$)	I_{TSM}	120	A
Non repetitive surge peak on-state current ($t_p=8.3ms, T_j=25$)		132	
I^2t value for fusing ($t_p=10ms, T_j=25$)	I^2t	72	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}, f=100Hz, j=150$)	di/dt	100	A/s
Peak gate current ($t_p=20s, T_j=150$)	I_{GM}	4	A

JCT151E-650RH

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ORDERING INFORMATION

J CT 151 E -650

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

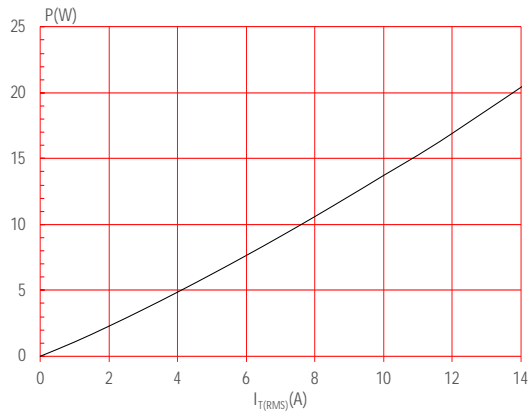


FIG.2: RMS on-state current versus case temperature

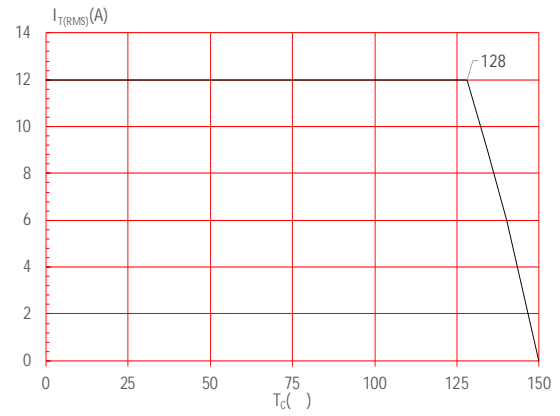


FIG.3: RMS on-state current versus ambient temperature (printed circuit board FR4,copper)

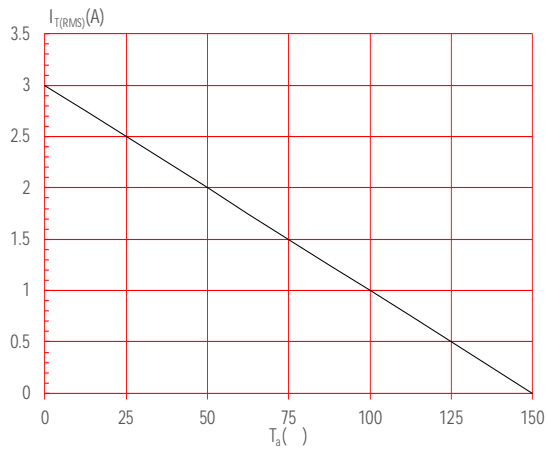


FIG.4: Surge peak onstate current versus number of cycles

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

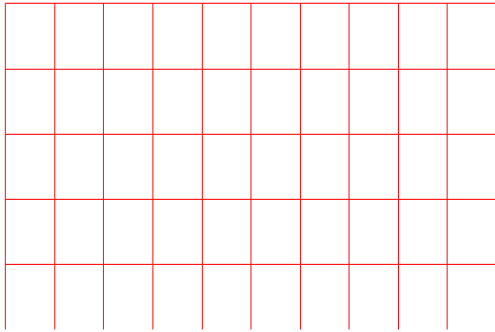
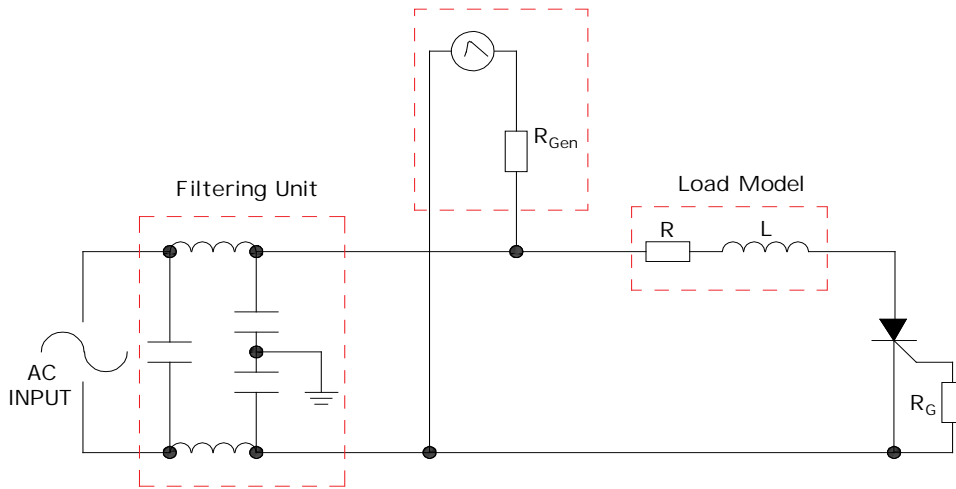


FIG.8 Test circuit for inductive and resistive loads to IEC61000-4-5 standards.

IEC61000-4-5 Standards
Surge Generator



SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150
	-Temperature Max($T_{s(max)}$)	+200
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp(T_L) to peak)		3 /sec. Max
$T_{s(max)}$ to T_L -Ramp-up Rate		3 /sec. Max
Reflow	-Temperature(T) (Liquidus)	+217
	-Temperature(t)	60-150 secs.
Peak Temp (T_p)		+260(+0%)
Time within 5 of actual Peak Temp (t)		20-40secs.
Ramp-down Rate		6 /sec. Max

9 SCN (m)4. Mo2P5.66 Pe23 T78.91(0)8.918.S Q q8im

JCT151E-650R

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DELIVERY MODE



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