



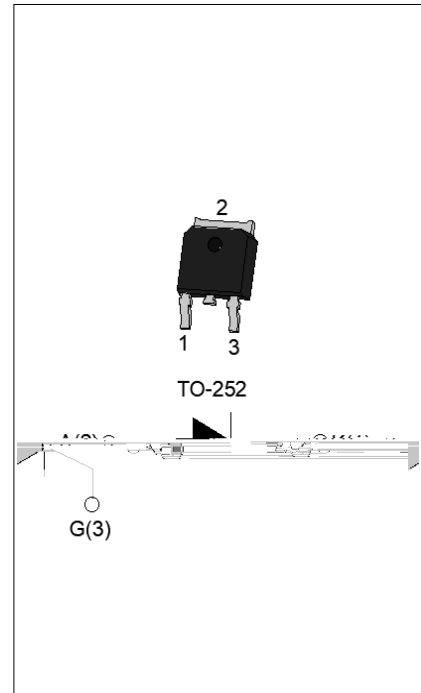
### DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT810K 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-252 is RoHS compliant.

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	10	A
$V_{DRM}/V_{RRM}$	800	V
$I_{GT}$	10	mA



### 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
Average on-state current ( $T_c = 63^\circ\text{C}$ )	$I_{T(AV)}$	6.5	A
RMS on-state current ( $T_c = 63^\circ\text{C}$ )	$I_{T(RMS)}$	10	A
Non repetitive surge peak on-state current ( $t_p=10\text{ms}, T_j=25^\circ\text{C}$ )	$I_{TSM}$	110	A
Non repetitive surge peak on-state current ( $t_p=8.3\text{ms}, T_j=25^\circ\text{C}$ )		120	
$I^2t$ value for fusing ( $t_p=10\text{ms}, T_j=25^\circ\text{C}$ )	$I^2t$	61	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}, f=100\text{Hz}, T_j=125^\circ\text{C}$ )	$di/dt$	100	$\text{A/s}$
Peak gate current ( $t_p=20\text{ }\mu\text{s}, T_j=125^\circ\text{C}$ )	$I_{GM}$	4	A

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** ( $T_j=25$  unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
$I_{GT}$	$V_D=12V R_L=33$	-	-	10	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
$I_H$	$I_T=500mA$	-	-	30	mA
dV/dt	$V_D=540V$ Gate Open $T_j=125$	500	-	-	V s
$t_{on}$	$I_G=20mA I_A=200mA I_R=20mA$ $T_j=25$	-	3	-	s
$t_{off}$		-	50	-	

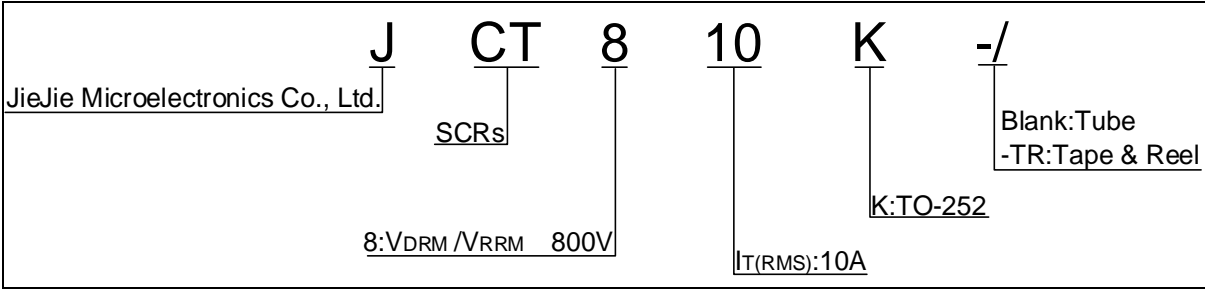
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM}=20A t_p=380$ s	$T_j=25$	1.55	V
$V_{TO}$	Threshold voltage	$T_j=125$	0.772	V
$R_D$	Dynamic resistance	$T_j=125$	26.5	
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	A
$I_{RRM}$		$T_j=125$	0.25	mA

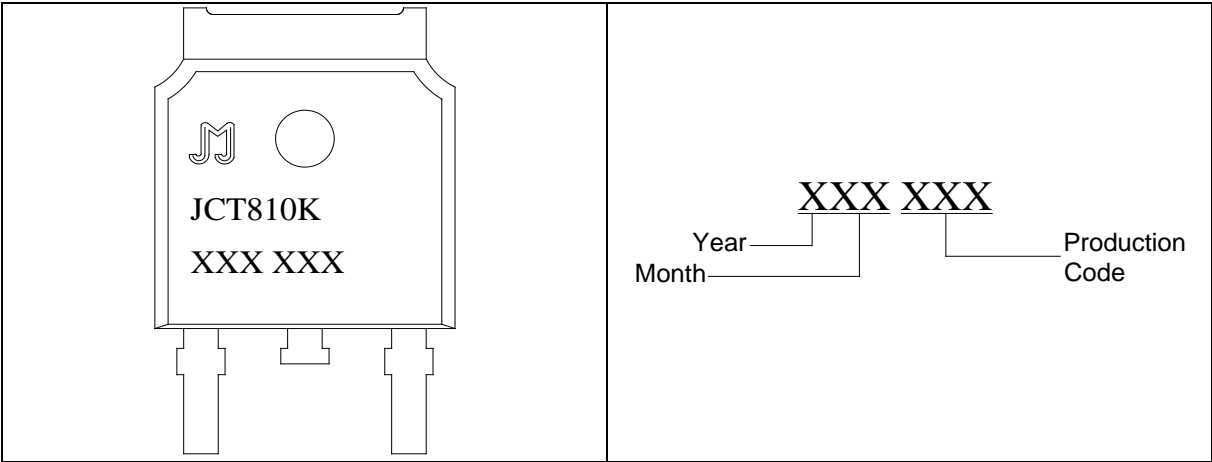
**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case(DC)	4.5	/W
$R_{th(j-a)}$	junction to ambient (DC)	120	/W

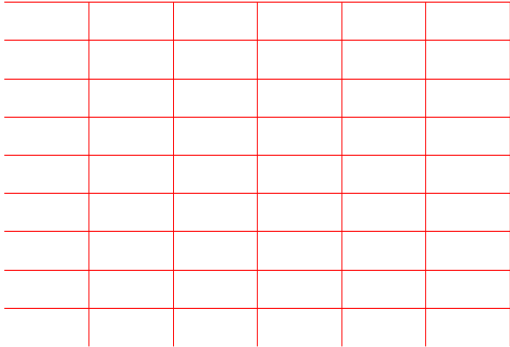
ORDERING INFORMATION



MARKING



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

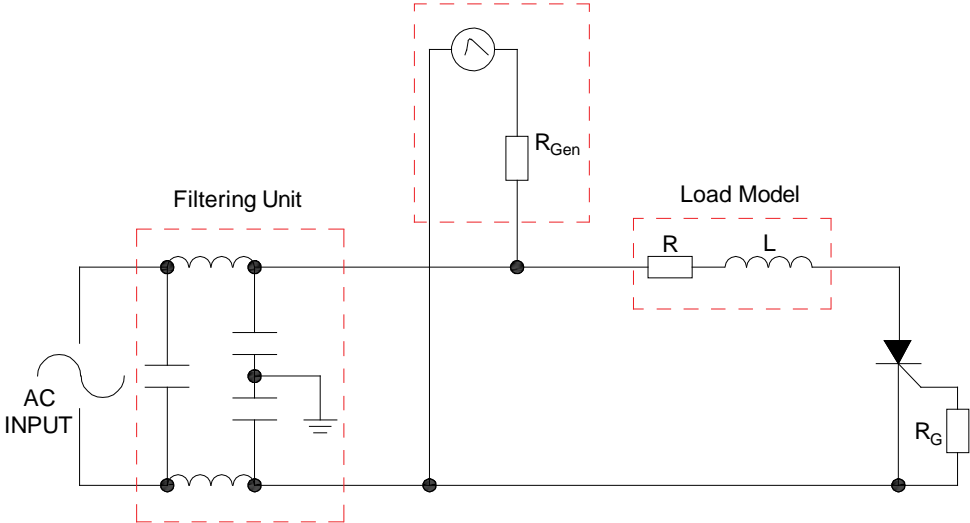


**FIG.2:** RMS on-state current versus case temperature

**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.

IEC61000-4-5 Standards  
Surge Generator



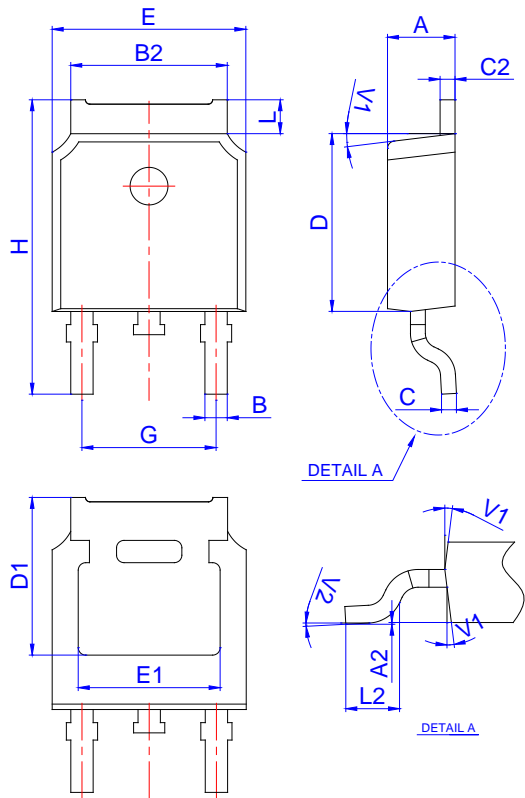
**ORDERING INFORMATION**

Order code	Voltage $V_{DRM}/V_{RRM}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT810K	800	10	TO-252	80	Tube
JCT810K-TR				2,500	Tape & Reel

**Document Revision History**

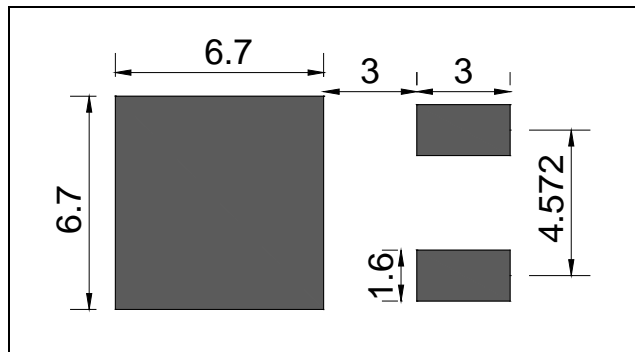
Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update

PACKAGE MECHANICAL DATA



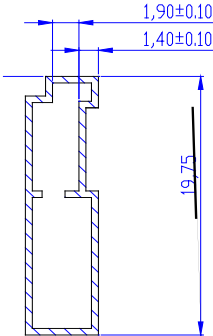
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.15	0		0.006
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°

FOOTPRINT-TO-252 (dimensions in mm)





DELIVERY MODE



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