



JCT616E 16A SCR

Rev.A.1.1

DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT616E 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
$I_{T(RMS)}$	16	A
V_{DRM}/V_{RRM}	600	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	-40-125	
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	600	V
Average on-state current ($T_c 095^\circ\text{C}$)	$I_{T(AV)}$	10	A
RMS on-state current ($T_c 095^\circ\text{C}$)	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	150	A
Non repetitive surge peak on-state current ($t_p=8.3\text{ms}$, $T_j=25^\circ\text{C}$)		165	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	113	A^2s
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	150	A/s

Peak gate current (t_p)

Average gate power dissipation ($T_j=125^\circ\text{C}$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	20	W
Peak pulse voltage ($T_j=25^\circ\text{C}$; non-repetitive, off-state; FIG.8)	V_{pp}	0.5	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}	$V_D=V_{DRM}$ $T_j=125^\circ\text{C}$ $R_L=3.3k$	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	60	mA
I_H	$I_T=500\text{mA}$	-	-	50	mA
dV/dt	$V_D=400V$ Gate Open $T_j=125^\circ\text{C}$	1200	-	-	V/s
t_{on}	$I_G=20\text{mA}$ $I_A=200\text{mA}$ $I_R=20\text{mA}$ $T_j=25^\circ\text{C}$	-	4	-	s
t_{off}		-	60	-	

STATIC CHARACTERISTICS

Symbol

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DELIVERY MODEL

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