



JCT612A-FO 12A SCRs

Rev.1.2

DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT612A-FO of silicon controlled rectifiers provide high dV/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. From all three terminals to external heatsink, JCT612A-FO provides a rated insulation voltage of 2500 V_{RMS} , complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	JCT612A-FO
V_{DRM}/V_{RRM}	600V
$I_{T(RMS)}$	12A
I_{GT}	3~6mA

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($T_j=150^\circ C$)	V_{DRM}	600	V
Repetitive peak reverse voltage($T_j=150^\circ C$)	V_{RRM}	600	V

RMS on-state current
TO-220A(Ins)
($T_c=110^\circ C$)

JCT612A-FO

oelectronics Co., Ltd.

Average gate power dissipation	1	W
Peak gate power	5	W
Peak pulse voltage (Tj=25 ; non-repetitive,off-state;FI	0.6	kV

ELECTRICAL CHARACTERISTICS (Tj=25 ; unless otherwise specified)

Symbol	Test Condition	Value		Unit
		TYP.	MAX.	
IGT	VD=12V RL=33	-	6	mA
VGT		-	1.5	V
VGD	VD=VDRM Tj=150 RL=3.3	-	-	V
IL	IG=1.2IGT	-	60	mA
IH	IT=500mA	-	50	mA
dv/dt	VD=2/3VDRM Gate Open T	-	-	V s
ton	IG=20mA IA=200mA IR=20	-	4	s
toff	Tj=25	-	12	s

STATIC CHARACTERISTICS

Symbol	Parameter	Value(MAX)	Unit
V _{TM}	I _{TM} =23A t _p =380 s	1.4	V
V _{TO}	Threshold voltage	0.9	V
R _d	Dynamic resistance	22.4	m
I _{DRM} /I _{RRM}	VD=VDRM VR=VRRM	Tj=25	5 A
		Tj=150	1 mA

ORDERING INFORMATION

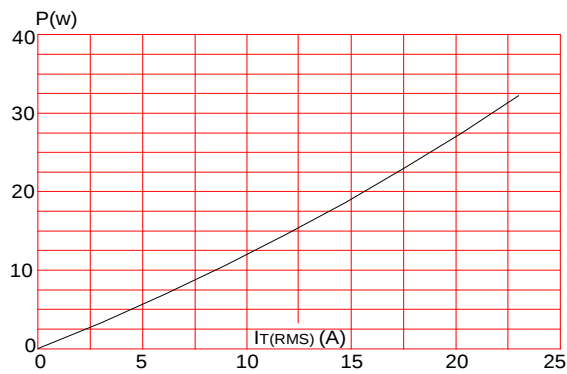
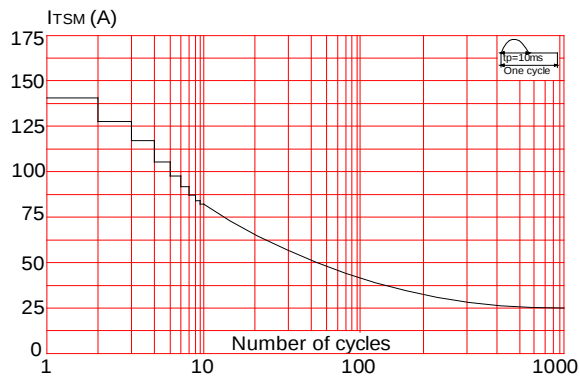
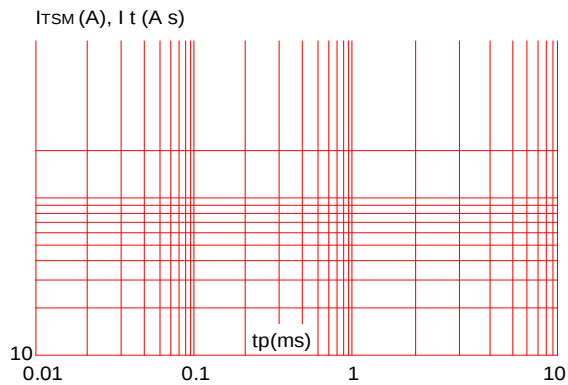
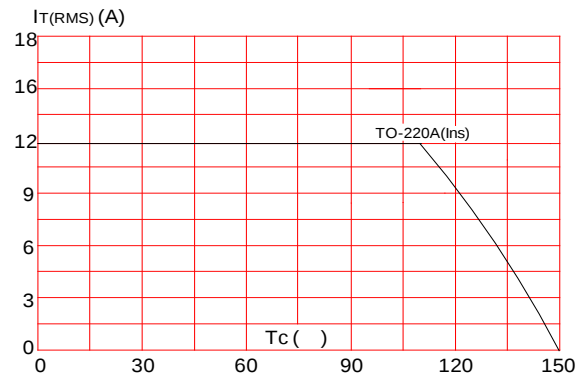
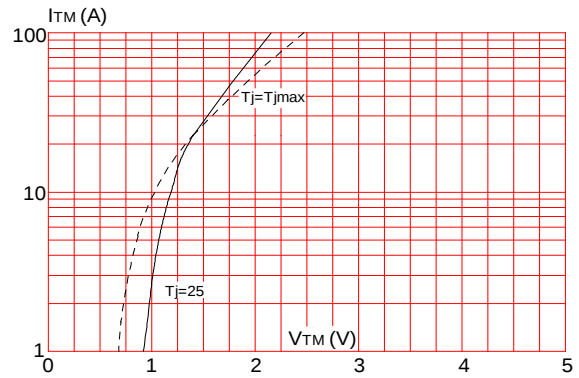
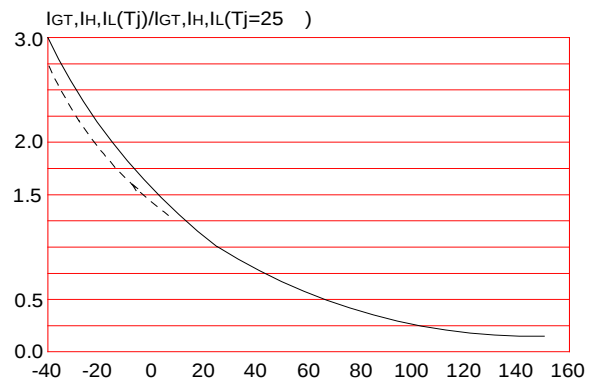
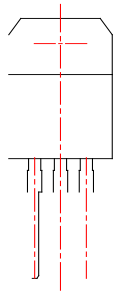
FIG.1: Maximum power dissipation versus RMS on-state current

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 $t_p < 10\text{ms}$, and corresponding value of I_t ($di/dt < 100\text{A/s}$)

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

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

FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards -.167398386581



PACKAGE MECHANICAL DATA



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