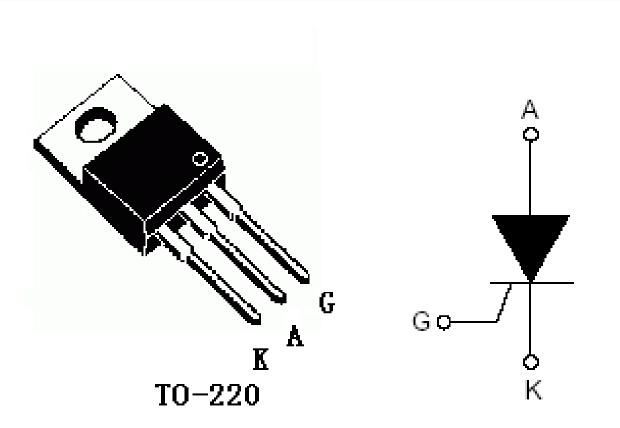
3CT12A

GENERAL DESCRIPTION

- Very low on-state voltage
- High I_{TSM}
- High blocking voltage
- High reliability and stability

PNPN devices designed for Motor control, Power converter, AC power controller, Light and temperature control, SCR for inrush current limiting in power supplies or AC drive. The 3CT12A is manufactured using P+ isolation diffusion technology and glass passivation technology.



ABSOLUTE RATINGS (limiting values) (Tc=25℃)

Parameter	Symbol	Value and test condition	Unit
Average on-state current	$I_{T\ (AV)}$	12(T_{mb}≤103℃, θ=180℃ half sine wave)	A
RMS on-state current	$I_{T\ (RMS)}$	18	A
Non repetitive surge peak on-state current	I_{TSM}	150	A
Repetitive peak off-state voltage	V_{DRM}	≥400;≥500;≥600	V
Repetitive peak reverse voltage	V_{RRM}		V
Average gate power	P_{GM}	20 (f≥50Hz,占空比≤10%)	W
Peak gate current	$P_{G\ (AV)}$	0.5	W
Peak reverse gate current	V_{RGM}	7	V
Operation junction temperature	Tvj	125	℃
Storage temperature	Tstg	-40—150	℃

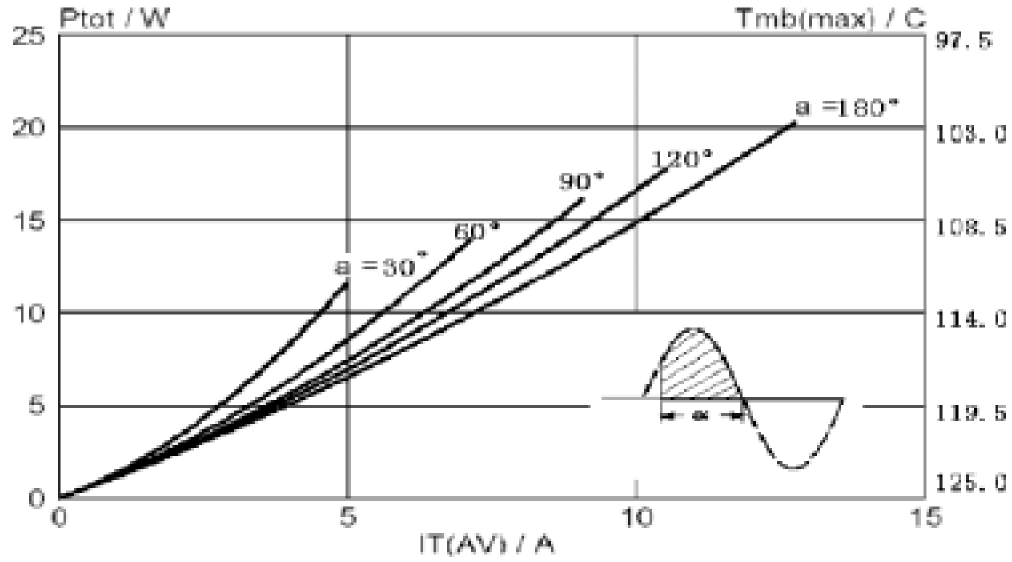
● ELECTRICAL CHARACTERISTICS (Tc=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak Repetitive Forward or Reverse Blocking Current	I_{RRM}	$V_{RM}=V_{RRM}$, Tj=125°C	-	-	1.0	mA
	I_{DRM}	$V_{DM}=V_{DRM}$, Tj=125°C	-	-	1.0	μA
Peak on-state voltage	V_{TM}	I_{TM}=40A	-	1.45	2.2	V
Gate trigger current	I_{GT}	V_{DM}=12V, I_T=0.1A	1	3.5	15	mA
Gate trigger voltage	V_{GT}	V_{DM}=12V, I_T=0.1A	-	0.7	1.5	V
Rise of off- state voltage	dV/dt	$V_{DM}=2/3V_{DRM}$, Tj=125°C, gate open	50	200	-	V/μS
Holding current	I_H	V_{DM}=12V, I_T=0.1A	-	7	20	mA

● THERMAL RESISTANCES

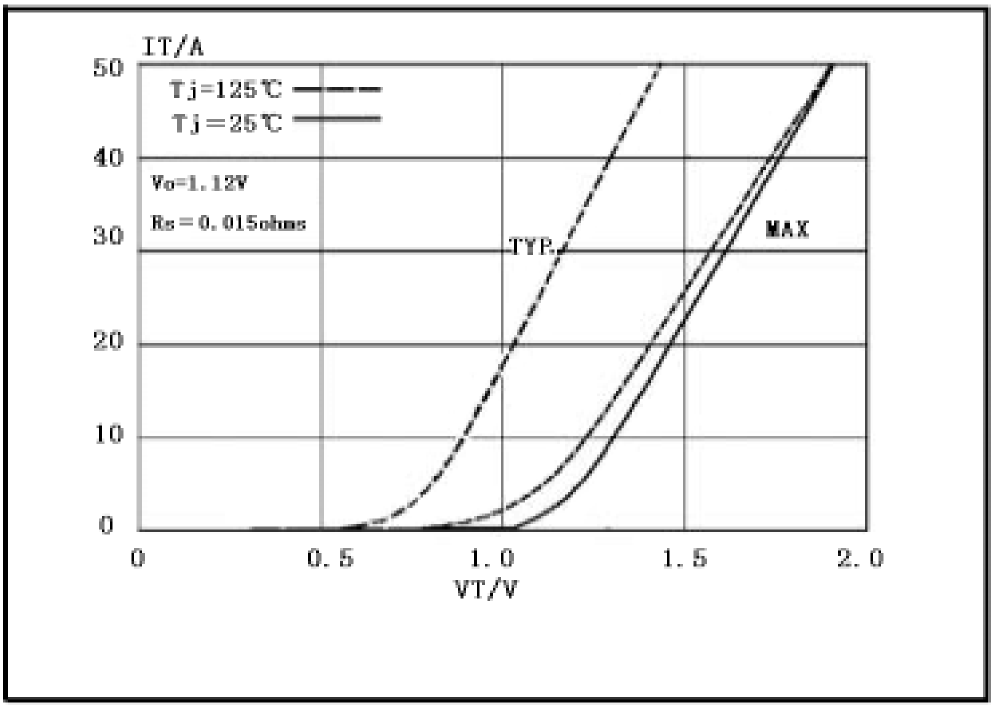
Parameter	Symbol	Test condition	MIN	TYP	MAX	Unit
Thermal resistances	R_{th}(j-c)	Junction to case	-	-	1.3	℃/W
	R_{th}(j-a)	Junction to ambient	-	60	-	℃/W

◆ Average on-state current Derating

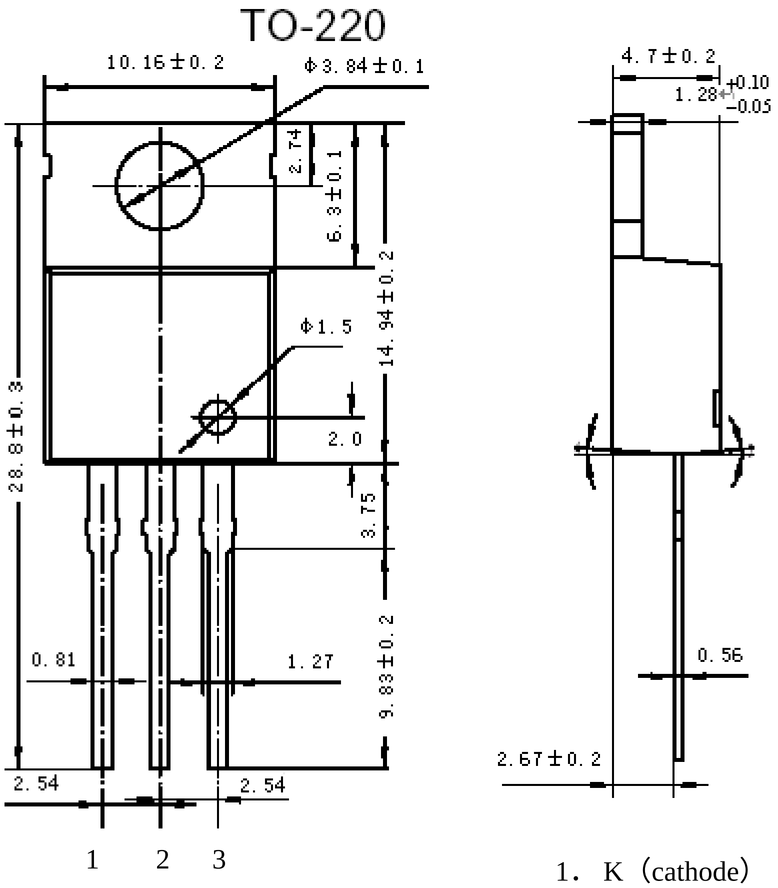


IT(AV), **Average on-state current** (AMP)

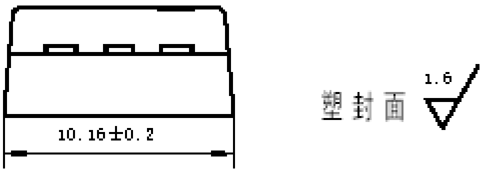
◆On-state characteristics (type and maximum values).



PACKAGE MECHANICAL DATA



1． K（cathode）
2． A（anode）
3． G（gate）



单位：mm

NOTES

1. Jilin Sino-microelectronics co., Ltd sales its product either through direct sales or sales agent , thus, for customers, when ordering , please check with our company.
2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
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5. Jilin Sino-microelectronics co, Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

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