T12A6CI

Bi-Directional Triode Thyristor
12A Mold TRIAC

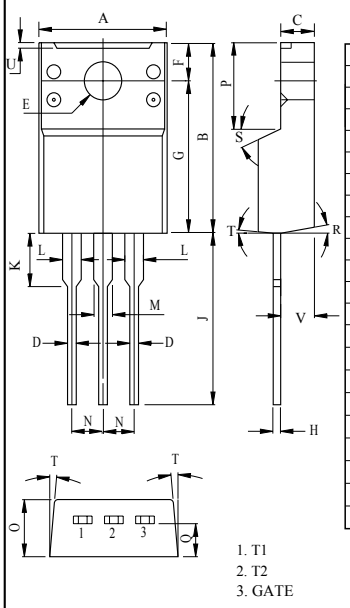
AC POWER CONTROL APPLICATION.

FEATURES

- Repetitive Peak Off-state Voltage : V_{DRM}=600V.
- R.M.S On-State Current : $I_{T(RMS)}$=12A.
- High Commutaing (dv/dt)
- Isolation Voltage : V_{ISOL}=1500V AC
  (UL Recognized : E166398)

APPLICATIONS

- Switching Mode Power Supply
- Speed Control of Small Motors
- Solid State Relay
- Light Dimmer
- Washing Machine
- Temperature Control of Heater



DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	2.70±0.30
D	0.85 MAX
E	Ø3.20±0.20
F	3.00±0.30
G	12.30 MAX
H	0.75 MAX
J	13.60±0.50
K	3.90 MAX
L	1.20
M	1.30
N	2.54
O	4.50±0.20
P	6.80
Q	2.60±0.20
R	10°
S	25°
T	5°
U	0.5
V	2.60±0.15

TO-220IS

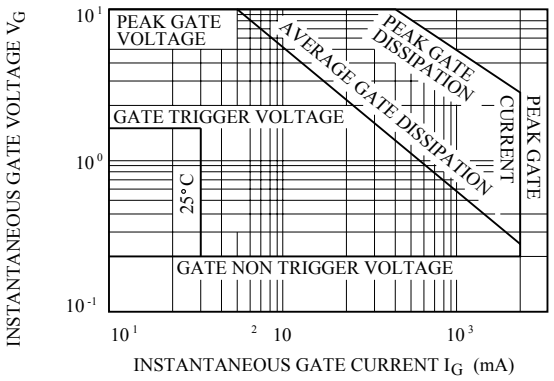
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Non-Repetitive Peak Off-state Voltage	V_{DSM}	700	V
Repetitive Peak Off-state Voltage	V_{DRM}	600	V
R.M.S On-state Current (Full Sine Waveform Tc=77℃)	$I_{T(RMS)}$	12	A
Peak One Cycle Surge On-state Current (Non-Repetitive)	I_{TSM}	120 (50Hz 1 Cycle) 132 (60Hz 1 Cycle)	A
I^2t Limit Value (1mS≦t≦10mS)	I^2t	72	A^2S
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.5	W
Peak Gate Voltage	V_{GM}	10	V
Peak Gate Current	I_{GM}	2	A
Junction Temperature	T_j	-40～125	℃
Storage Temperature Range	T_{stg}	-40～125	℃
Isolation Voltage (Ac, t=1min.)	V_{ISOL}	1500	V

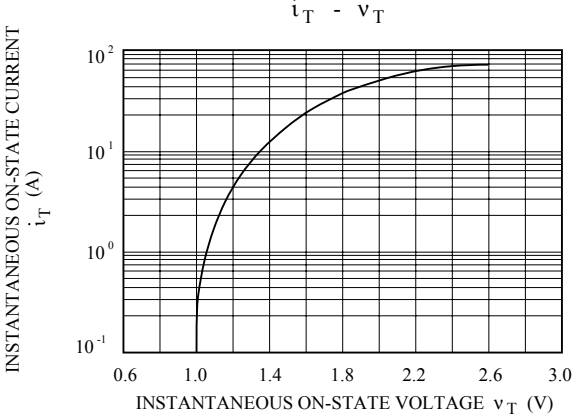
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-state Current		I_{DRM}	V_{DRM}=Rated		-	-	20	μA
Gate Trigger Voltage	Ⅰ	V_{GT}	V_D=12V, R_L=20Ω	T_2(+), Gate(+)	-	-	1.5	V
	Ⅱ			T_2(+), Gate(-)	-	-	1.5	
	Ⅲ			T_2(-), Gate(-)	-	-	1.5	
	Ⅳ			T_2(-), Gate(+)	-	-	-	
Gate Trigger Current	Ⅰ	I_{GT}		T_2(+), Gate(+)	-	-	30	mA
	Ⅱ			T_2(+), Gate(-)	-	-	30	
	Ⅲ			T_2(-), Gate(-)	-	-	30	
	Ⅳ			T_2(-), Gate(+)	-	-	-	
Peak On-State Voltage		V_{TM}	I_{TM}=17A		-	-	1.5	V
Gate Non-Trigger Voltage		V_{GD}	V_D=Rated, Tc=125℃		0.2	-	-	V
Holding Current		I_H	V_D=12V, I_{TM}=1A		-	-	50	mA
Critical Rate of Rise of Off-state Voltage		d_V/d_t	T_J=125℃, V_{DRM}=Rated Exponential Rise		-	300	-	V/μS
Critical Rate of Rise of Off-state Voltage at commutation		$(d_V/d_t)C$	T_j=125℃, (di/dt)C=-6.5A/mS, V_D=2/3V_{DRM}		10	-	-	V/μS
Thermal Resistance		$R_{th(j-c)}$	Junction to Case, AC		-	-	3.0	℃/W

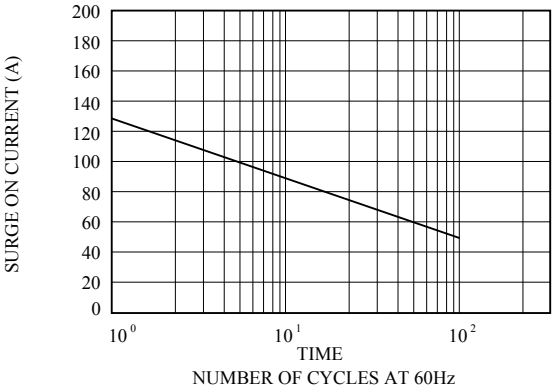
GATE TRIGGER CHARACTERISTIC



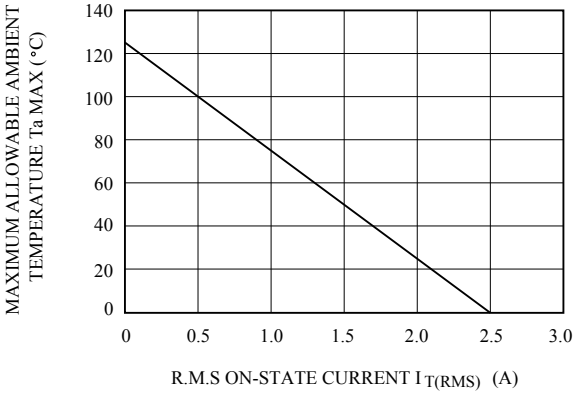
i_T - v_T



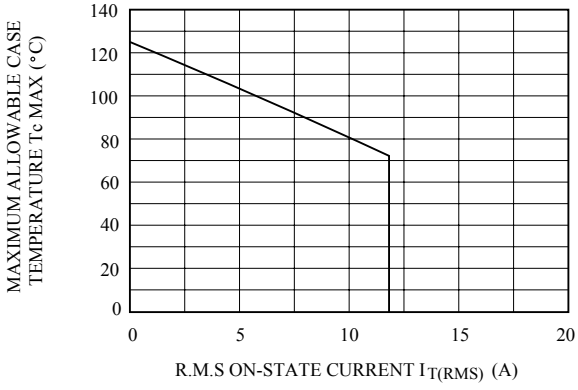
SURGE ON-STATE CURRENT(60Hz)



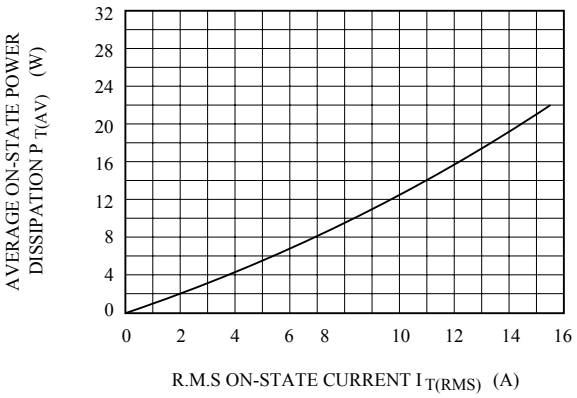
Ta MAX - $I_{T(RMS)}$



Tc MAX - $I_{T(RMS)}$



$P_{T(AV)}$ - $I_{T(RMS)}$



TRANSIENT THERMAL IMPEDANCE (JUNCTION TO CASE)