

**Sensitive Gate Triacs
Silicon Bidirectional Thyristors**

**TRIACS
6 AMPERES RMS
600 VOLTS**

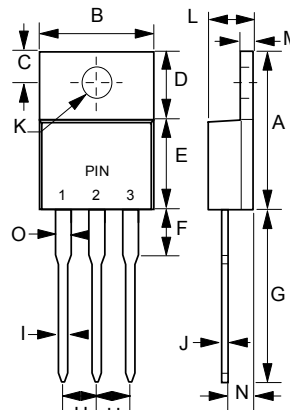
FEATURES

- Sensitive Gate Triggering in 3 Modes for AC Triggering on Sinking Current Sources
- Four Mode Triggering for Drive Circuits that Source Current
- All Diffused and Glass-Passivated Junctions for Parameter Uniformity and Stability
- Center Gate Geometry for Uniform Current Spreading

MECHANICAL DATA

- Case: Molded plastic
- RoHs Compliant (2002/95/EC)
- Weight: 0.07 ounces, 2.0 grams

TO-220AB



TO-220AB		
DIM.	MIN.	MAX.
A	14.22	15.88
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	-	6.35
G	12.70	14.73
H	2.29	2.79
I	0.51	1.14
J	0.40	0.67
K	3.53 Ø	4.09 Ø
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
O	1.17	1.37

All Dimensions in millimeter

PIN ASSIGNMENT	
1	Main Terminal 1
2	Main Terminal 2
3	Gate
4	Main Terminal 2

MAXIMUM RATINGS (T_J= 25°C unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Repetitive Off- State Voltage (1) (T _J = -40 to 110°C, Sine Wave, 50 to 60 Hz; Gate Open)	V _{DRM} , V _{RRM}	600	Volts
On-State RMS Current (T _C = 80°C) Full Cycle Sine Wave 50 to 60 Hz	I _{T(RMS)}	6	Amp
Peak Non-Repetitive Surge Current (One Full Cycle Sine Wave, 60 Hz, T _J = 25°C)	I _{TSM}	60	Amps
Circuit Fusing Consideration (t = 8.3 ms)	$I^2 t$	15	A ² s
Peak Gate Power (t ≤ 2.0 us, T _C = 80°C)	P _{GM}	20	Watt
Average Gate Power (t ≤ 8.3 ms, T _C = 80°C)	P _{G(AV)}	0.5	Watt
Peak Gate Current (t ≤ 2.0 us, T _C = 80°C)	I _{GM}	2.0	Amp
Peak Gate Voltage(t ≤ 2.0 us, T _C = 80°C)	V _{GM}	10	Volts
Operating Junction Temperature Range	T _J	-40 to +125	°C
Storage Temperature Range	T _{stg}	-40 to +150	°C

Notice: (1) V_{DRM} and V_{RRM} for all types can be applied on a continuous basis. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.

REV. 4, Oct-2010, KTXC34

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance - Junction to Case - Junction to Ambient	R _{thJC} R _{thJA}	2.6 62.5	°C/W
Maximum Lead Temperature for Soldering Purposes 1/8" from Case for 10 Seconds	TL	260	°C

ELECTRICAL CHARACTERISTICS (T_J=25°C unless otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Peak Repetitive Forward or Reverse Blocking Current (V _D =Rated V _{DRM} and V _{RRM})	T _J =25°C T _J =125°C	I _{DRM}	----	----	10	uA
		I _{RRM}	----	----	2.0	mA

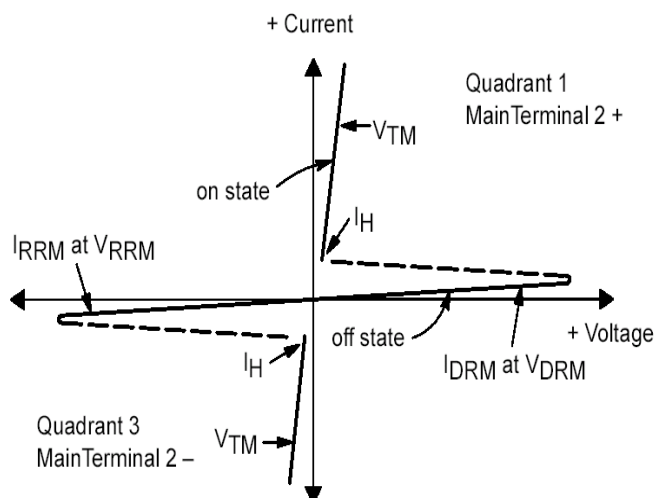
ON CHARACTERISTICS

Peak Forward On-State Voltage (I _{TM} =± 8.5A Peak @T _p ≤2.0 ms, Duty Cycle ≤ 2%)	V _{TM}	----	----	1.6	Volts
Gate Trigger Current (V _D = 12V, R _L = 100 Ohms)	I _{GT1}	----	----	10.0	mA
	I _{GT2}	----	----	10.0	
	I _{GT3}	----	----	10.0	
	I _{GT4}	----	----	20.0	
Holding Current (V _D =12 V, R _L = 100 Ohms, Initiating Current = ± 200 mA, Gate Open)	I _{H1} I _{H2} I _{H3} I _{H4}	----	----	15	mA
Gate Trigger Voltage (V _D = 12 V, R _L = 100 Ohms)	V _{GT1} V _{GT2} V _{GT3} V _{GT4}	----	----	1.3	Volts
Latching Current (V _D = 12 V, R _L = 100 Ohms, I _G = 10mA)	I _{L1}	----	----	15	mA
	I _{L2}	----	----	30	
	I _{L3}	----	----	15	
	I _{L4}	----	----	15	

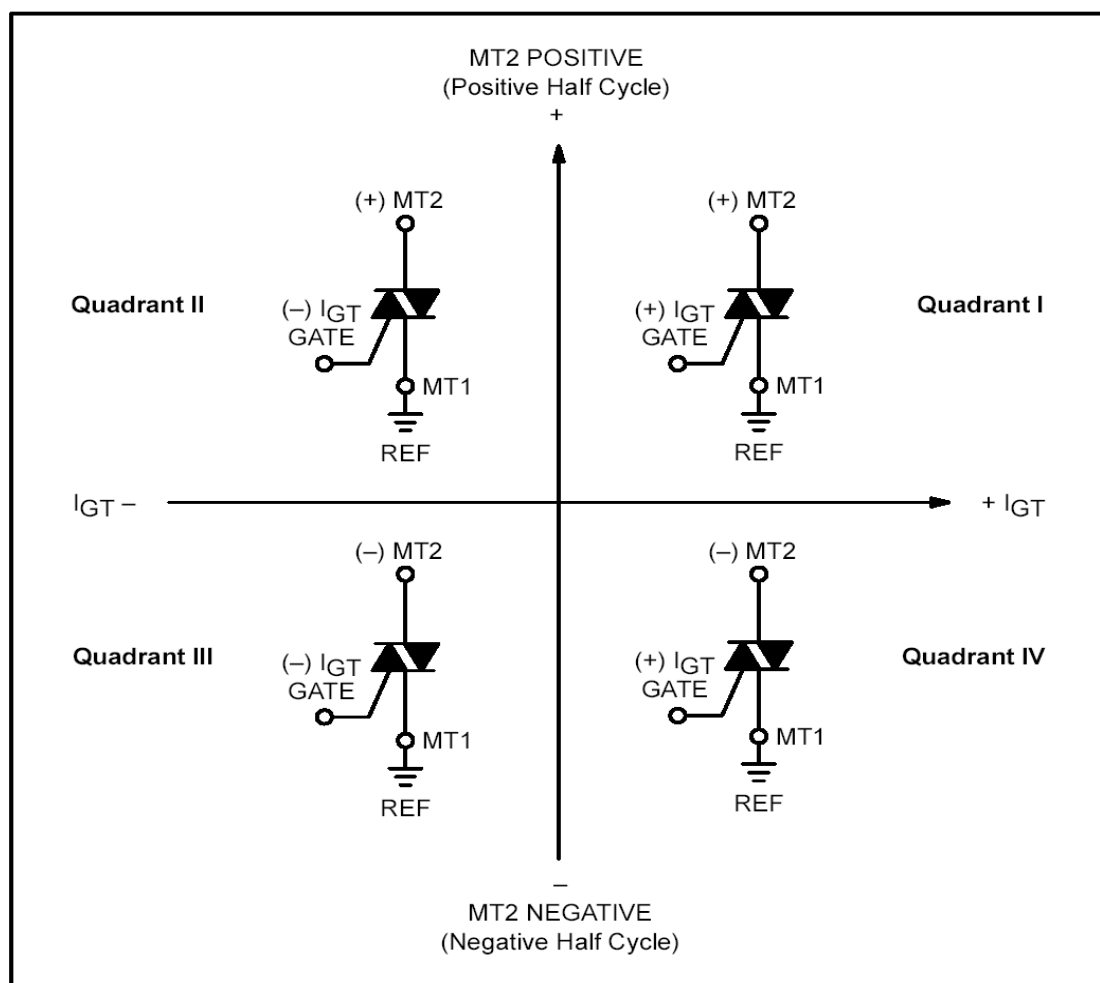
DYNAMIC CHARACTERISTICS

Critical Rate of Rise of Off-State Voltage (V _D = 0.67 %Rated V _{DRM} , Exponential Waveform, T _C =110°C)	dv/dt	----	50	----	V/us
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Symbol	Parameter
V_{DRM}	Peak Repetitive Forward Off State Voltage
I_{DRM}	Peak Forward Blocking Current
V_{RRM}	Peak Repetitive Reverse Off State Voltage
I_{RRM}	Peak Reverse Blocking Current
V_{TM}	Maximum On State Voltage
I_H	Holding Current

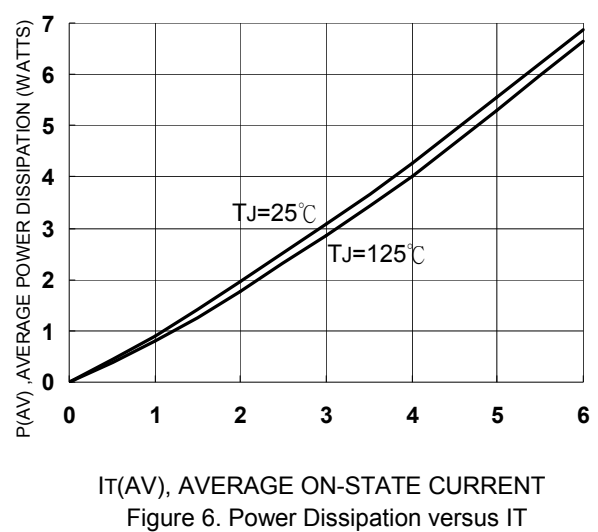
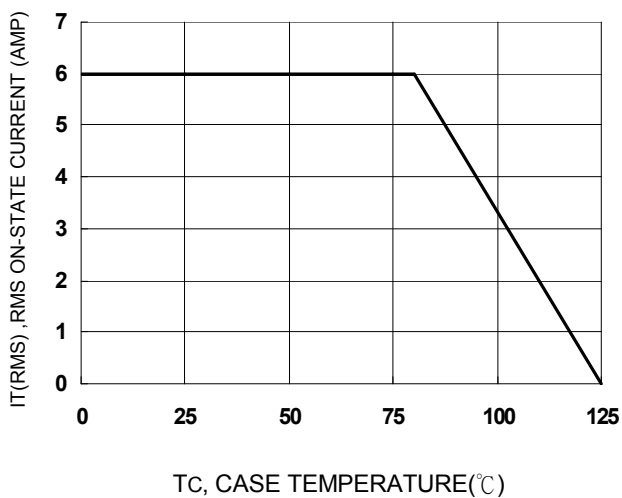
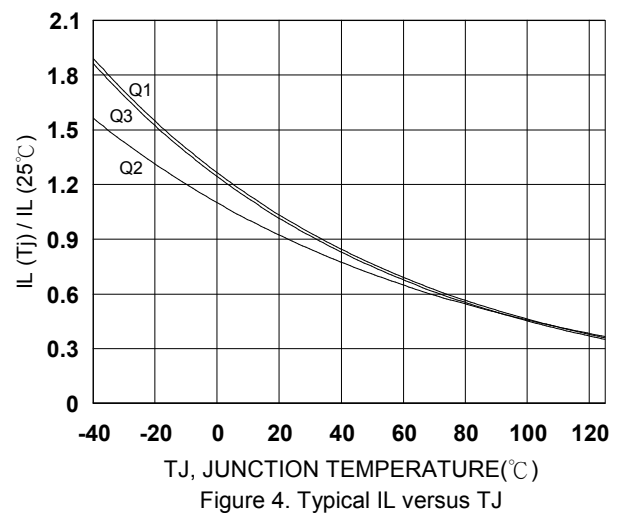
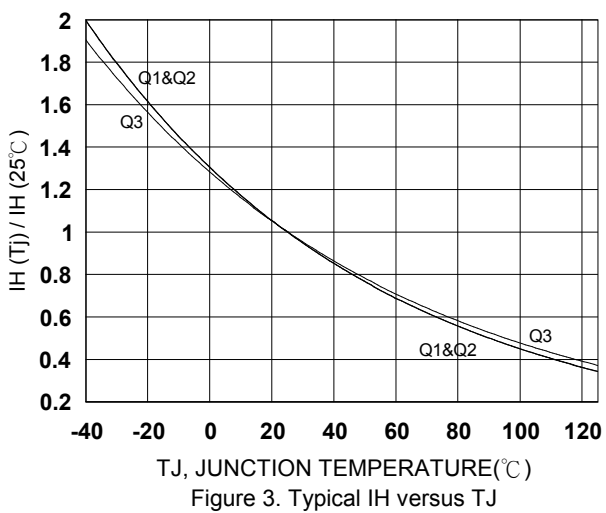
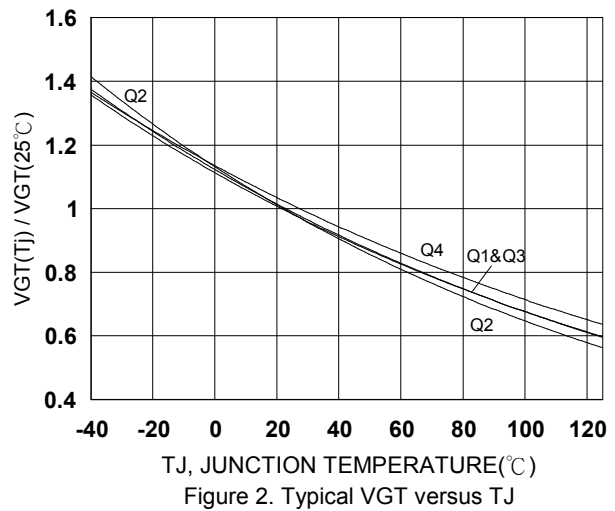
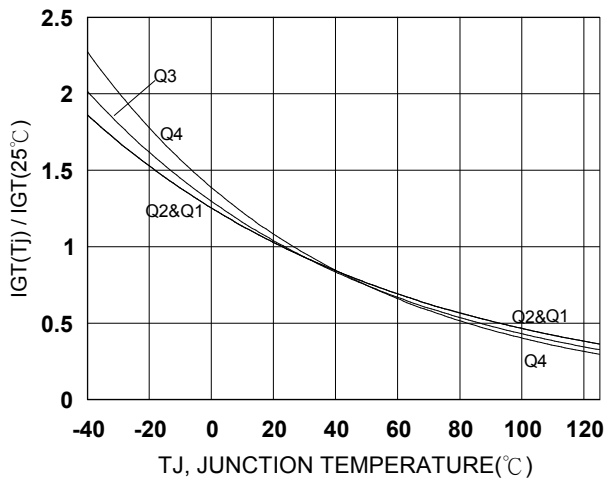


Quadrant Definitions



All polarities are referenced to MT1

Whith in -phase signal (using standard AC lines) quadrants I and III are used



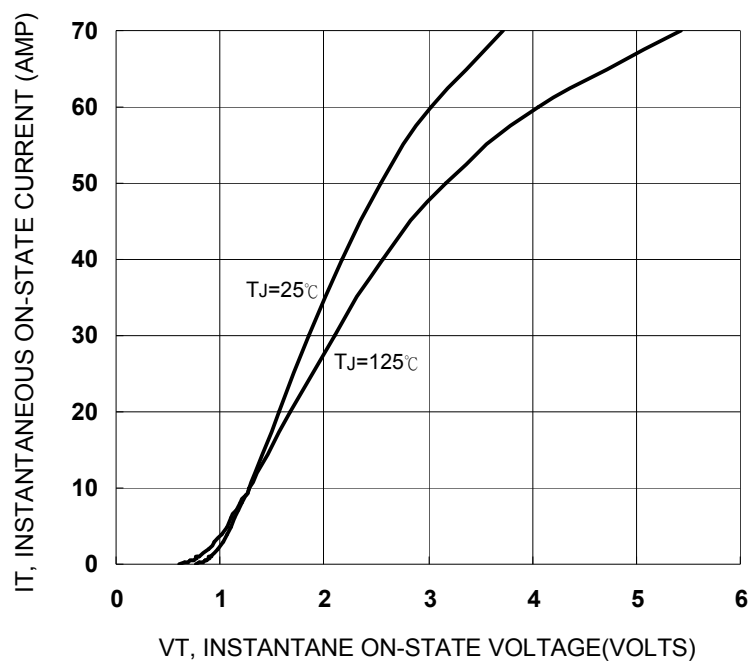


Figure 7. On-State Characteristics

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