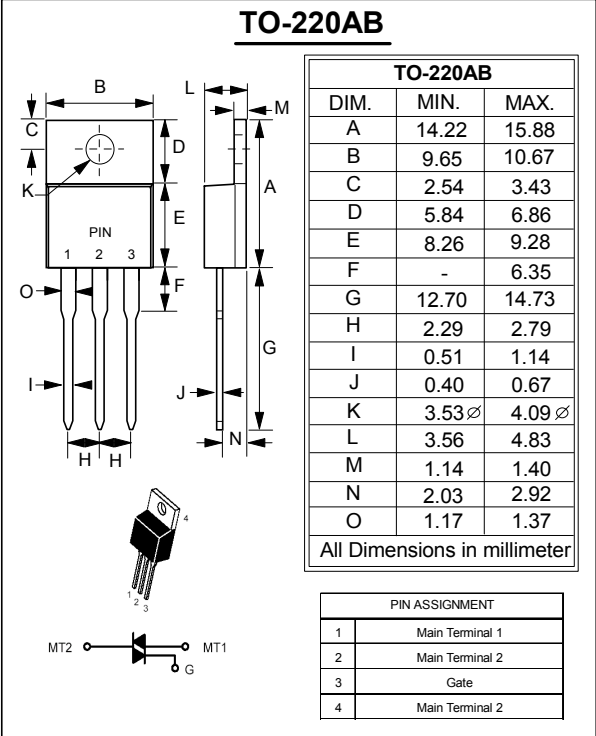


**Sensitive Gate Triacs
Silicon Bidirectional Thyristors**

**TRIACS
16 AMPERES RMS
400 thru 600 VOLTS**

- FEATURES**
- Sensitive Gate allows Triggering by Microcontrollers and other
 - Maximum Values of IGT, VGT and IH Specified for Ease of Design
 - On-State Current Rating of 15 A RMS at 70°C
 - High Surge Current Capability - 120 A
 - Blocking Voltage to 800 V
 - Uniform Gate Trigger Currents in Three Quadrants, Q1, Q2, and Q3
 - Pb Free Package
- MECHANICAL DATA**
- Case: Molded plastic
 - Weight: 0.07 ounces, 2.0 grams



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

Rating	Symbol	Value	Unit
Peak Repetitive Off- State Voltage (1) (Tj= -40 to 110°C, Sine Wave, 50 to 60 Hz; Gate Open)	V _{DRM} , V _{VRRM}	400 600	Volts
On-State RMS Current (Tc = +70°C) Full Cycle Sine Wave 50 to 60 Hz	I _{T(RMS)}	16	Amp
Peak Non-Repetitive Surge Current (One Full Cycle Sine Wave, 60 Hz, Tj= +25°C) Preceded and followed by rated current.	I _{TSM}	120	Amps
Circuit Fusing Consideration (t = 8.3 ms)	I ² t	93	A ² s
Peak Gate Power (Tc = +70°C, Tp ≤ 1.0 us)	P _{GM}	20	Watt
Average Gate Power (Tc = +70°C, t=8.3 ms)	P _{G(AV)}	0.5	Watt
Operating Junction Temperature Range	T _J	-40 to +110	°C
Storage Temperature Range	T _{stg}	-40 to +150	°C

Notice: (1) V_{DRM} and V_{VRRM} 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. 3, Mar-2010,KTXC22

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance - Junction to Case - Junction to Ambient	R _{thJC} R _{thJA}	2.0 62.5	°C/W
Maximum Lead Temperature for Soldering Purposes 1/8" from Case for 10 Seconds	T _L	260	°C

ELECTRICAL CHARACTERISTICS (T_c=25°C unless otherwise noted, Electrical apply in both directions)

Characteristics	Symbol	Min	Typ	Max	Unit
-----------------	--------	-----	-----	-----	------

OFF CHARACTERISTICS

Peak Repetitive Forward or Reverse Blocking Current (V _D =Rated V _{DRM} , V _{RRM} ; Gate Open)	I _{DRM} I _{RRM}	---	---	0.01 2.0	mA
--	--------------------------------------	-----	-----	-------------	----

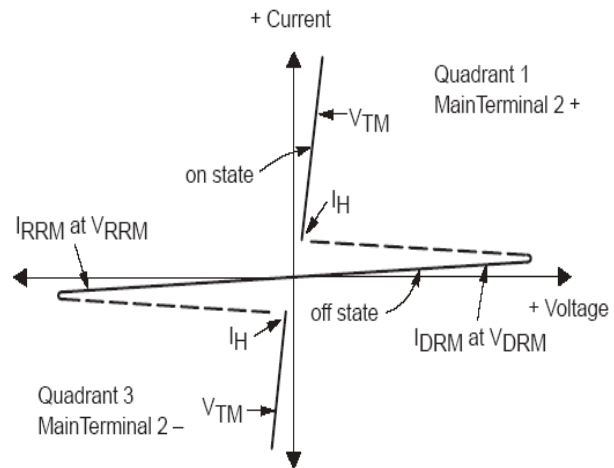
ON CHARACTERISTICS

Peak On-State Voltage (I _{TM} =± 21 A Peak @T _p ≤ 2.0 ms, Duty Cycle ≤ 2%)	V _{TM}	---	---	1.8	Volts
Gate Trigger Current (V _D = 12Vdc; R _L = 100 Ohms)	I _{GT1} I _{GT2} I _{GT3}	---	2.0 3.0 3.0	5.0 5.0 5.0	mA
Gate Trigger Voltage (V _D = 12 Vdc; R _L =100 Ohms)	V _{GT1} V _{GT2} V _{GT3}	0.45 0.45 0.45	0.62 0.60 0.65	1.5 1.5 1.5	Volts
Holding Current (V _D = 12 V, Initiating Current = ± 150 mA, Gate Open)	I _H	---	3.0	10	mA
Latching Current (V _D = 24 V, I _G = 50 mA)	I _L	---	5.0 10 5.0	15 20 15	mA

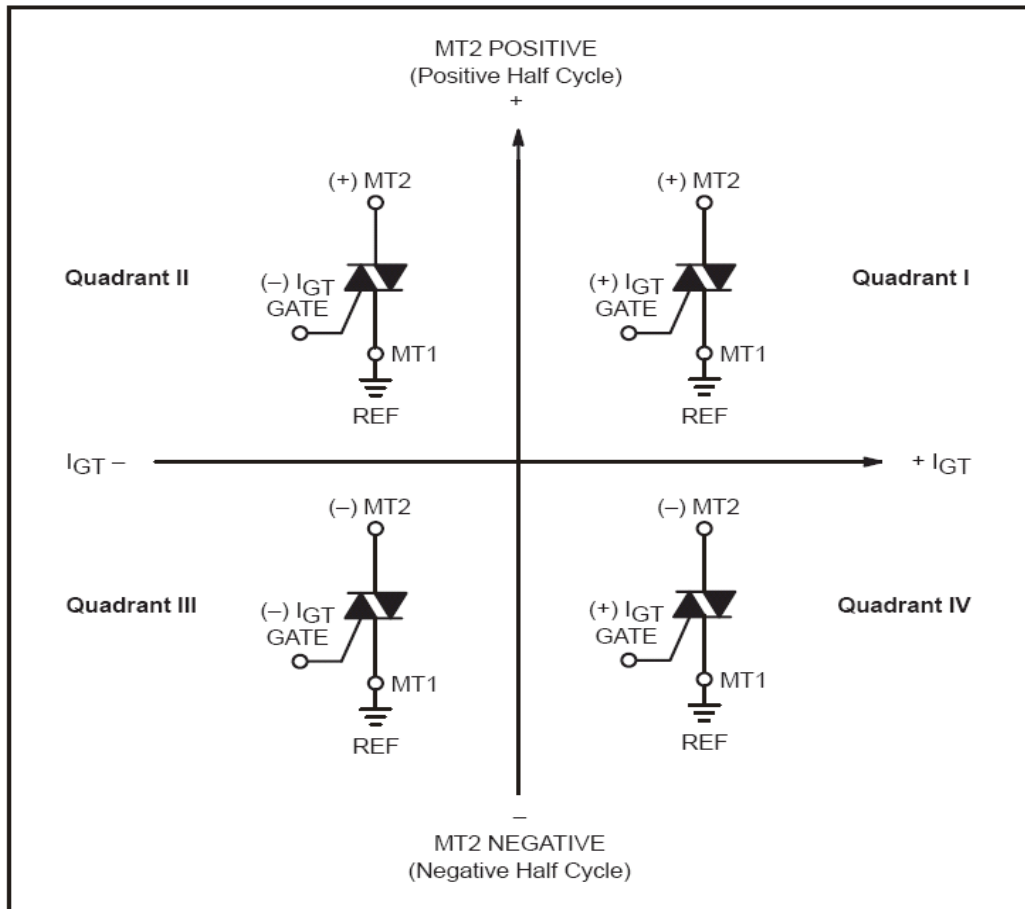
DYNAMIC CHARACTERISTICS

Critical Rate of Change of Commutation Current (V _D = Rated V _{DRM} , I _{TM} = 3.5 A, Commutating dv/dt = 10 V/us, Gate Unenergized, T _C = 110°C, f = 250 Hz, Snubber: C _s = 0.01 uf, R _s =15 Ohms)	di/dt(c)	8.0	10	---	A/ms
Critical Rate of Rise of Commutation Voltage (V _D = 67% V _{DRM} , Exponential Waveform, R _{GK} = 510 Ohms, T _C = 110°C)	dv/dt	25	75	---	V/us

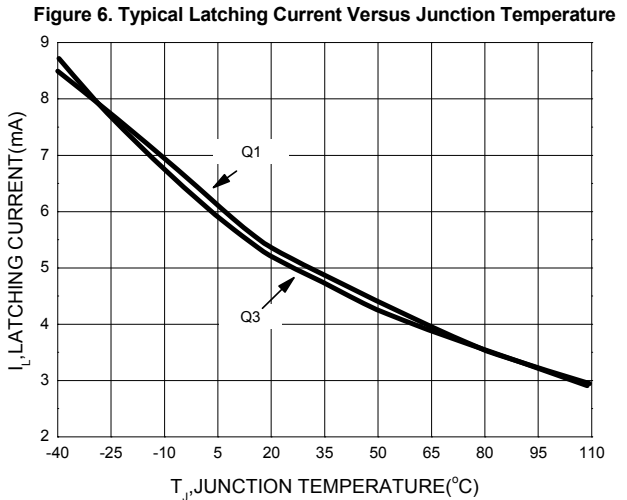
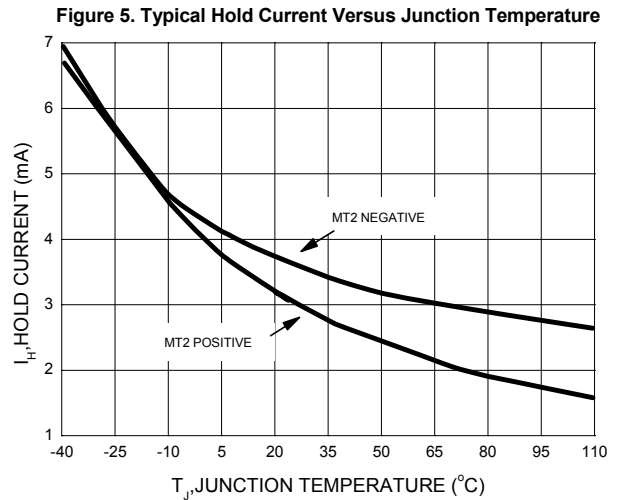
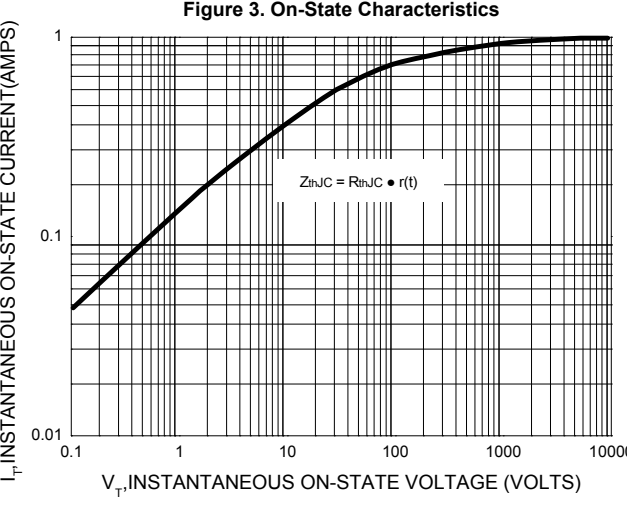
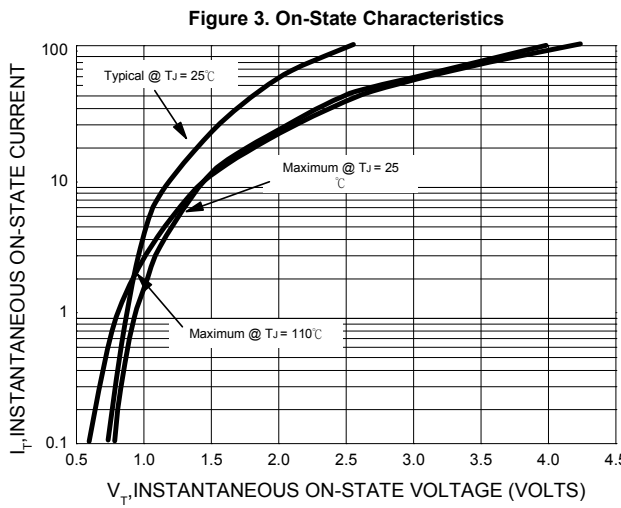
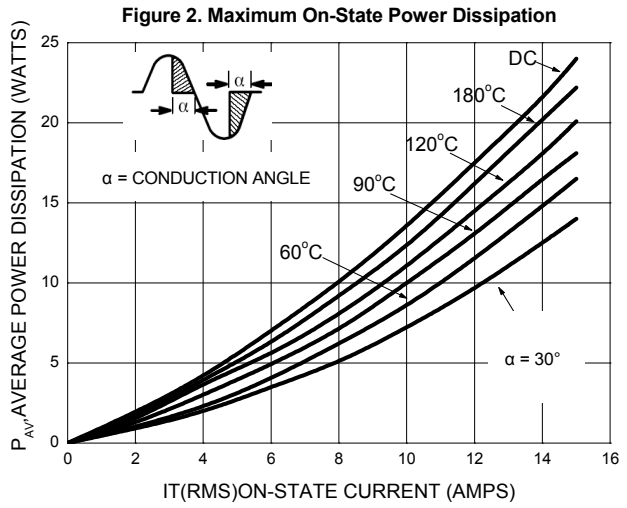
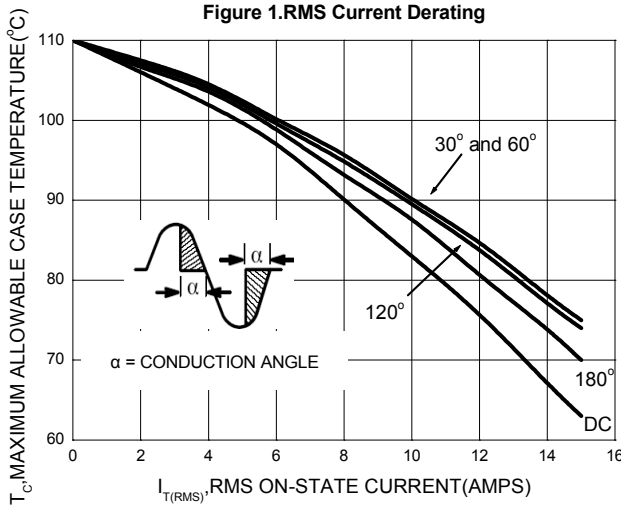
Symbol	Parameter
V_{DRM}	Peak Repetitive Forward Off State Voltage
I_{DRM}	Peak Forward Blocking Current
V_{RRM}	Peak Repetitive Reverse Off State Voltage
I_{RRM}	Peak Reverse Blocking Current
V_{TM}	Maximum On State Voltage
I_H	Holding Current



Quadrant Definitions



All polarities are referenced to MT1
 Which in -phase signal (using standard AC lines) quadrants I and III are used



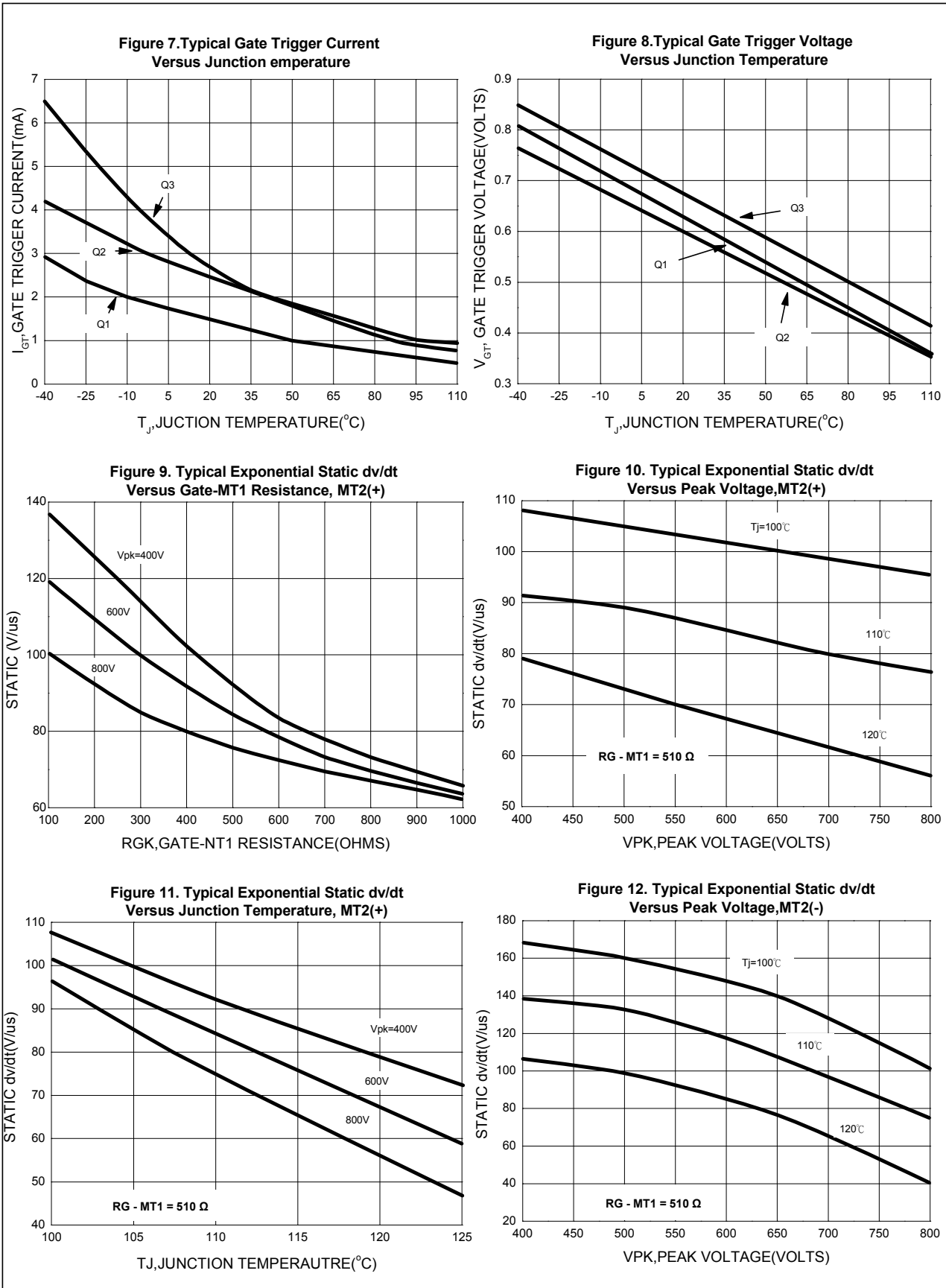


Figure 13. Typical Exponential Static dv/dt Versus Junction Temperature, MT2(-)

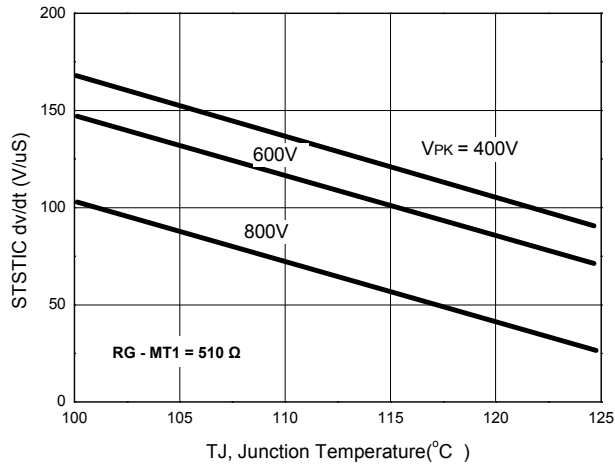


Figure 14. Critical Rate of Rise of Commutating Voltage

