

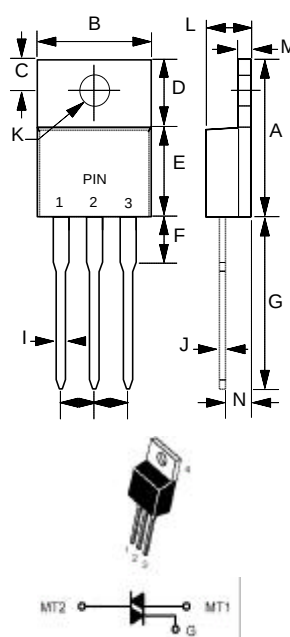
**Sensitive Gate Triacs
Silicon Bidirectional Thyristors**

TRIACS
8 AMPERES RMS
400 thru 800 VOLTS

FEATURES

- Blocking Voltage 400 thru 800 Volts
- All Diffused and Glass Passivated Junctions for Greater Parameter Uniformity and Stability
- Small, Rugged, Thermowatt Construction for Low Thermal Resistance, High Heat Dissipation and Durability
- Four Quadrant Gating
- Pb-Free Package

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	0.30	0.64
K	3.53 $\varnothing$	4.09 $\varnothing$
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92

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 125°C, Sine Wave, 50 to 60 Hz; Gate Open) T8M25F400B T8M25F600B T8M25F800B	V _{DRM} , V _{RRM}	400 600 800	Volts
On-State RMS Current (T _C = 80°C) Full Cycle Sine Wave 50 to 60 Hz	I _{T(RMS)}	8.0	Amp
Peak Non-Repetitive Surge Current (One Full Cycle Sine Wave, 60 Hz, T _J = 25°C)	I _{TSM}	100	Amps
Circuit Fusing Consideration (t = 8.3 ms)	I ² t	40	A ² s
Peak Gate Power (t ≤ 2.0 us, T _C = 80°C)	P _{GM}	16	Watt
Average Gate Power (t ≤ 8.3 ms, T _C = 80°C)	P _{G(AV)}	0.35	Watt
Peak Gate Current (t ≤ 2.0 us, T _C = 80°C)	I _{GM}	4.0	Amp
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. 2, Jun-2005, KTXC14

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance - Junction to Case	R _{thJC}	2.2	°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)

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})	I _{DRM} I _{RRM}	---	---	10	μA
		---	---	2.0	mA

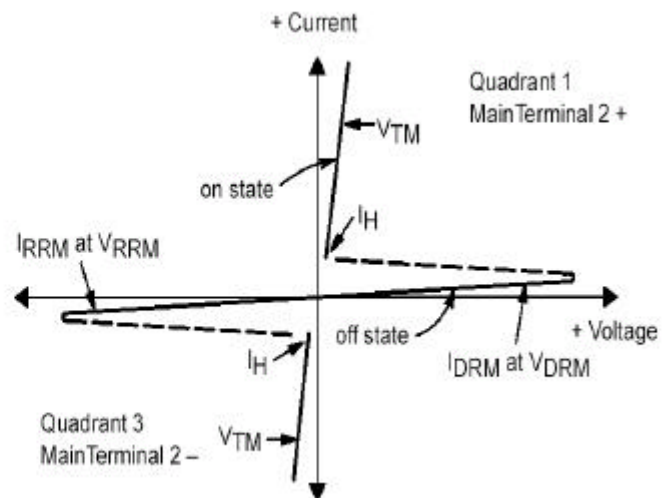
ON CHARACTERISTICS

Peak Forward On-State Voltage (I _{TM} =± 30A Peak @T _p ≤2.0 ms, Duty Cycle ≤ 2%)	V _{TM}	---	1.7	2.0	Volts
Gate Trigger Current (Continuous dc) (V _D = 12V, R _L = 100 Ohms)	I _{GT1}	---	10	25	mA
	I _{GT2}	---	20	60	
	I _{GT3}	---	15	25	
	I _{GT4}	---	30	60	
Holding Current (V _D = 12 V, Initiating Current = ± 200 mA, Gate Open)	I _H	---	15	30	mA
Gate Trigger Voltage (Continuous dc) (V _D = 12 V, R _L =100 Ohms) (All Quadrants)	V _{GT}	---	1.25	2.5	Volts
Gate Non - Trigger Voltage (Continuous dc) (V _D = 12 V, R _L =100 Ohms, T _c =100°C)	V _{GD}	0.2	---	---	Volts
Gate-Controlled Turn-On Time (V _D = Rated V _{DRM} , I _{TM} = 10 A, I _{GT} = 80 mA, Rise Time=0.1us)	t _{gt}	---	1.6	---	us

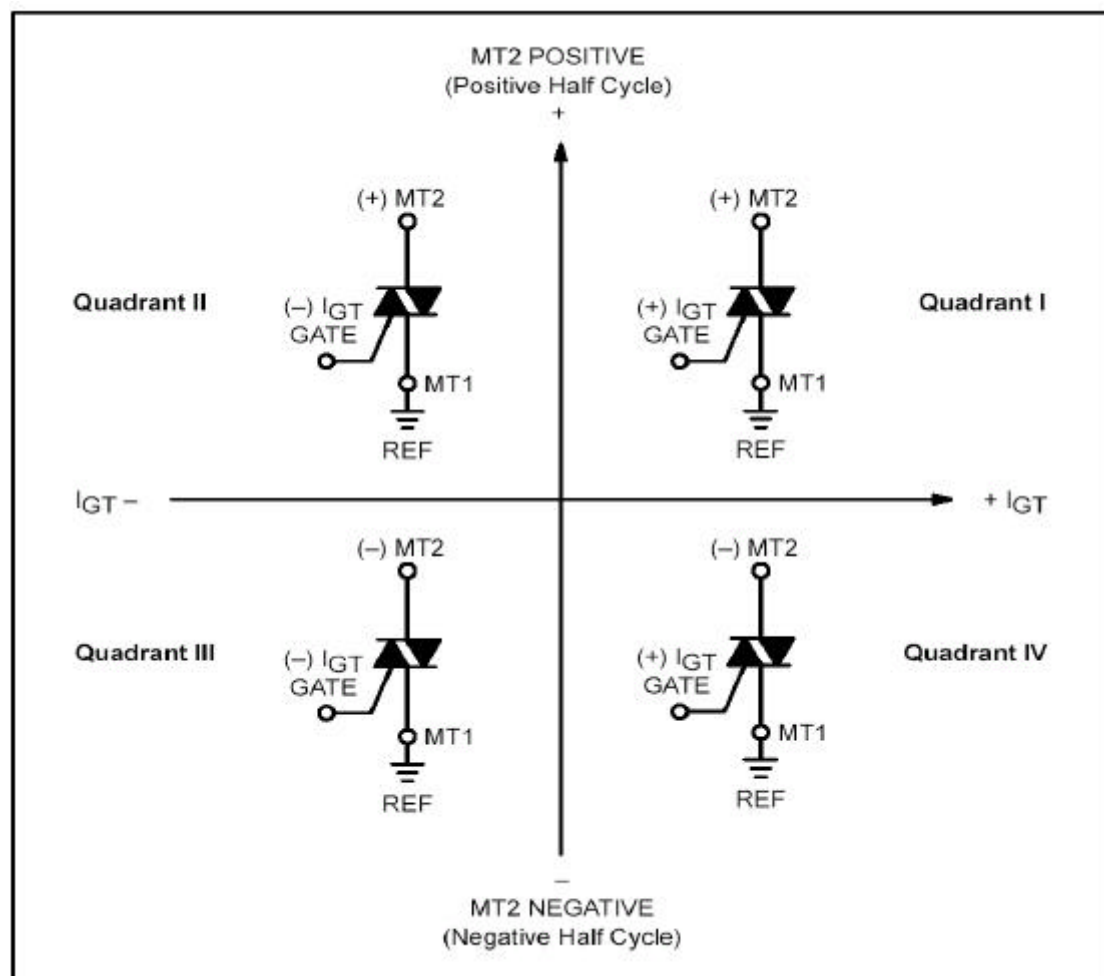
DYNAMIC CHARACTERISTICS

Critical Rate of Rise of Off-State Voltage (V _D =Rated V _{DRM} , Exponential Voltage Rise, Gate Open, T _C =100°C)	dv/dt	60	---	---	V/us
Critical Rate of Rise of Commutation Voltage (V _D = Rated V _{DRM} , I _{TM} = 8 A, Commutating di/dt = 4.1 A/ms, Gate Unenergized, T _C = 80°C)	dv/dt(c)	---	10	---	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

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

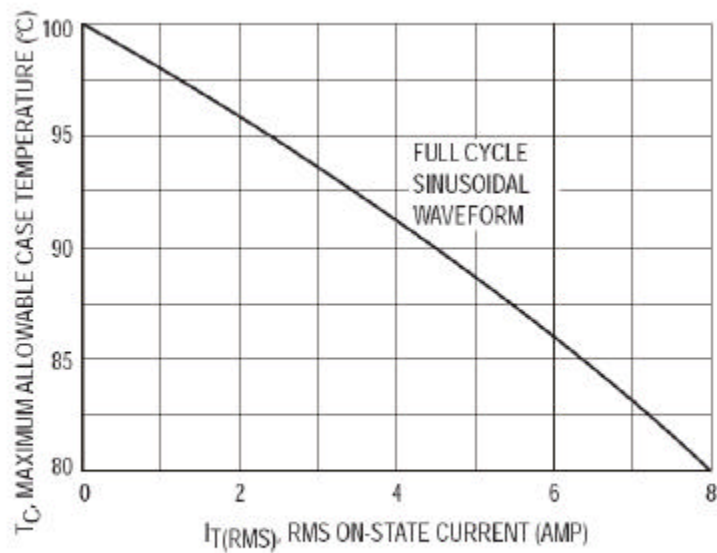


Figure 1. Current Derating

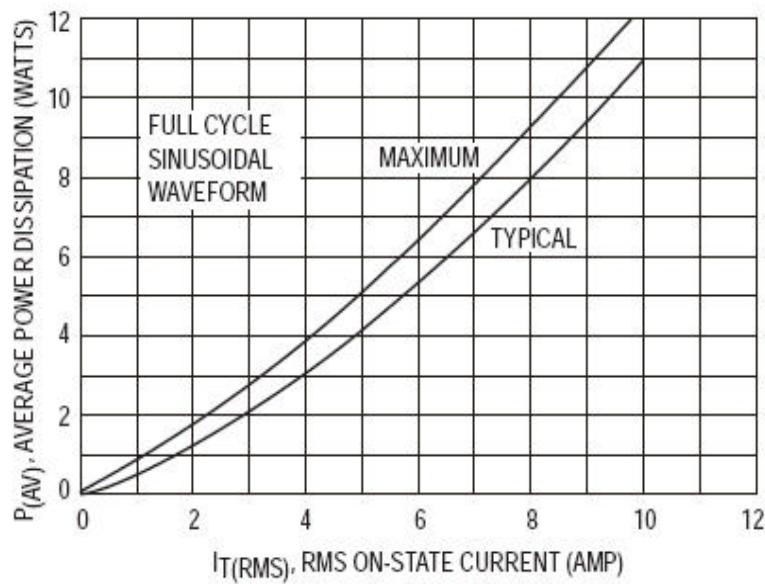


Figure 2. Power Dissipation