LITE-ON SEMICONDUCTOR

T16M25F600B

Sensitive Gate Triacs
Sillicon Bidirectional Thyristors

TRIACS
16 AMPERES RMS
600 VOLTS

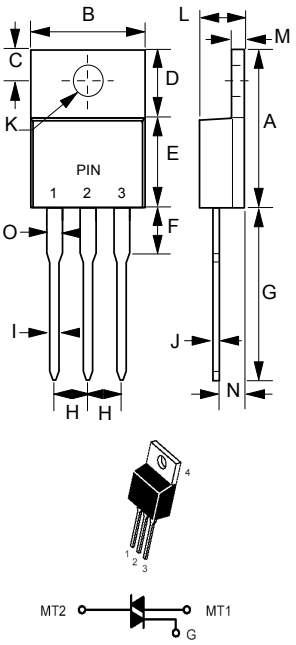
FEATURES

- Blocking Voltage to 600 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
- Gate Triggering Guaranteed in Four Modes

MECHANICAL DATA

- Case: Molded plastic
- 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⌀	4.09⌀
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 (Tj= 25℃ unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Repetitive Off– State Voltage (1) (TJ= -40 to 125℃, Sine Wave, 50 to 60 Hz; Gate Open)	VDRM, VRRM	600	Volts
On-State RMS Current (TC = +85℃) Full Cycle Sine Wave 50 to 60 Hz	IT(RMS)	16	Amp
Peak Non-Repetitive Surge Current (One Full Cycle Sine Wave, 60 Hz, TJ= 25℃) Preceded and followed by rated current.	ITSM	150	Amps
Circuit Fusing Consideration (t = 8.3 ms)	I^2t	93	A^2s
Peak Gate Power (TC = +80℃, Tp≦ 1.0 us)	PGM	20	Watt
Average Gate Power (TC = +80℃, t=8.3 ms)	PG(AV)	0.5	Watt
Operating Junction Temperature Range	TJ	-40 to +125	℃
Storage Temperature Range	Tstg	-40 to +150	℃

Notice: (1) VDRM and 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.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance - Junction to Case - Junction to Ambient	R_{thJC} R_{thJA}	2.5 62.5	℃/W
Maximum Lead Temperature for Soldering Purposes 1/8" from Case for 10 Seconds	T_L	260	℃

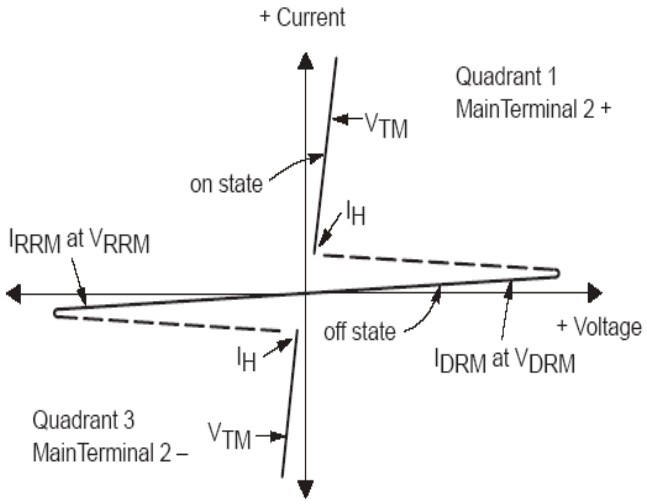
ELECTRICAL CHARACTERISTICS (T_J=25℃ unless otherwise noted, Electrical apply in both directions)

Characteristics		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Peak Reptitive Forward or Reverse Blocking Current (V_D=Rated V_{DRM}, V_{RRM}; Gate Open)	T_J=25℃ T_J=125℃	I_{DRM} I_{RRM}	---- ----	---- ----	10 2.0	uA mA
ON CHARACTERISTICS						
Peak On-State Voltage (I_{TM}=± 21 A Peak @Tp ≦ 2.0 ms, Duty Cycle ≦ 2%)		V_{TM}	----	1.3	1.6	Volts
Gate Trigger Current (V_D = 12Vdc; R_L = 100 Ohms)		I_{GT1} I_{GT2} I_{GT3} I_{GT4}	--- --- --- ---	--- --- --- ---	25 25 25 50	mA
Gate Trigger Voltage (V_D = 12 Vdc; R_L =100 Ohms)		V_{GT1} V_{GT2} V_{GT3} V_{GT4}	--- --- --- ---	1 1 1 1.25	2 2 2 2.5	Volts
Holding Current (V_D = 12 Vdc,RL= 100 Ohms)		I_{H1} I_{H2} I_{H3} I_{H4}	--- --- --- ---	--- --- --- ---	30 30 30 30	mA
Latching Current (VD=12 Vdc,R_L= 100 Ohms)		I_{L1} I_{L2} I_{L3} I_{L4}	--- --- --- ---	--- --- --- ---	30 60 30 30	mA

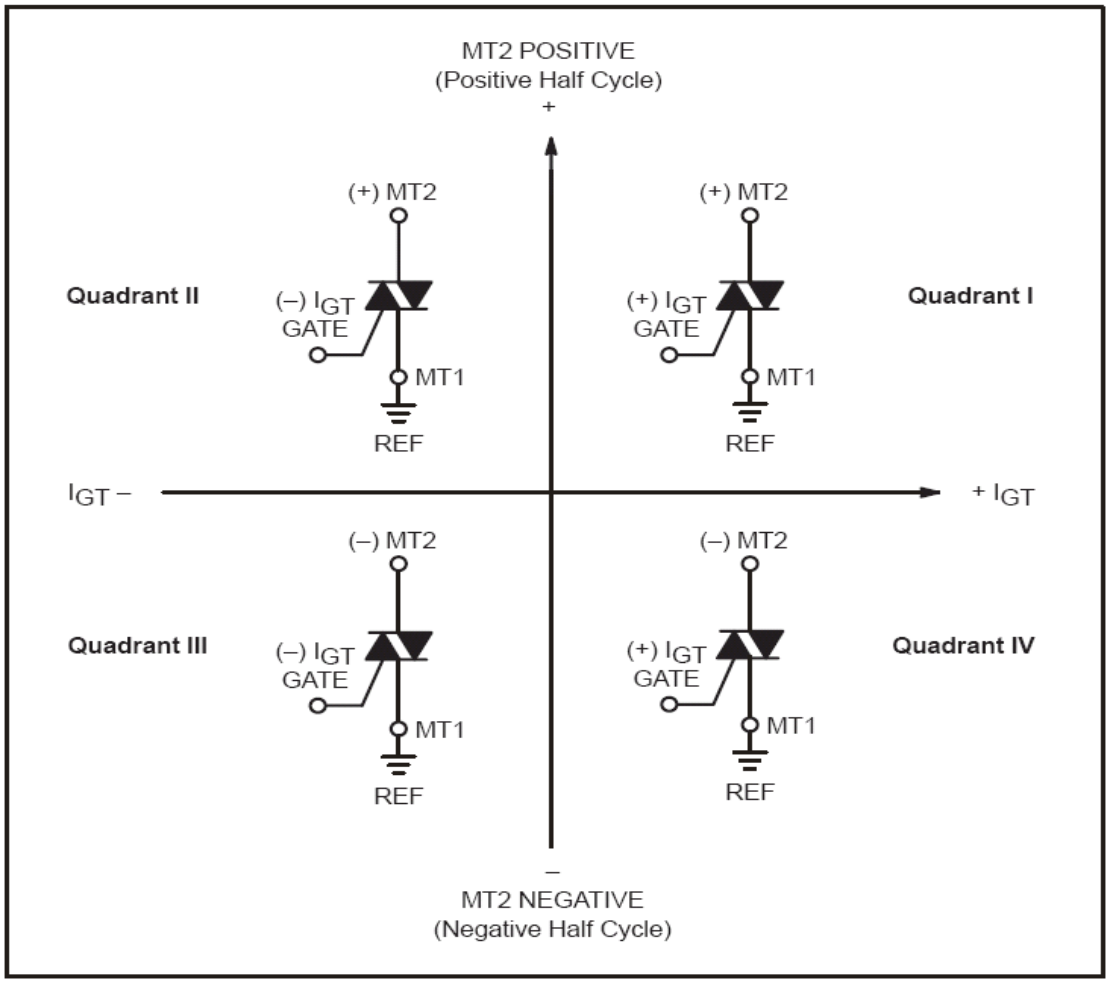
DYNAMIC CHARACTERISTICS

Critical Rate of Rise of off-state Voltage (V_D = 0.67% Rated VDRM, Exponential Waveform ,Tj=125 ℃,Gate Open)	dv/dt	250	---	---	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

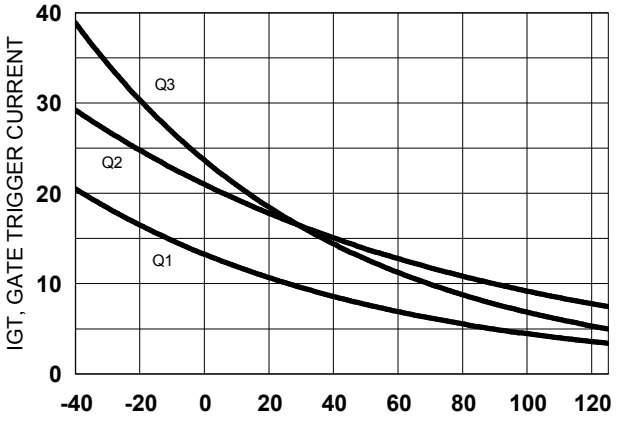


Figure 1. Typical IGT versus TJ

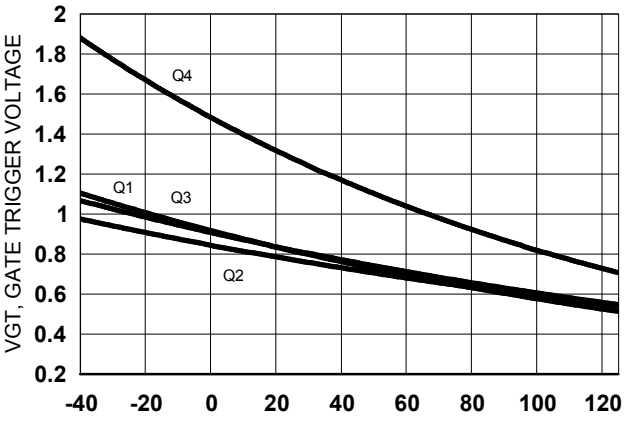


Figure 2. Typical VGT versus TJ

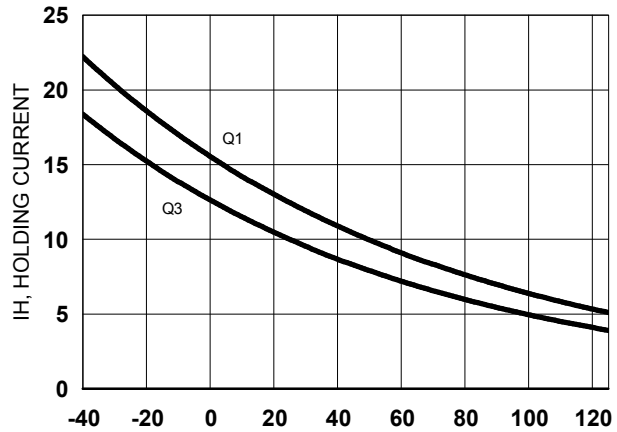


Figure 3. Typical IH versus TJ

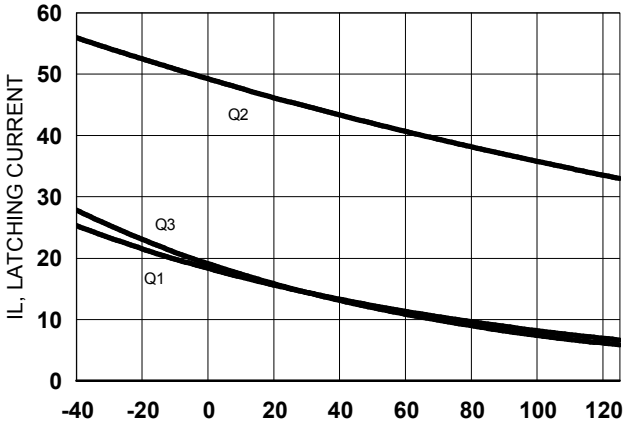


Figure 4. Typical IL versus TJ

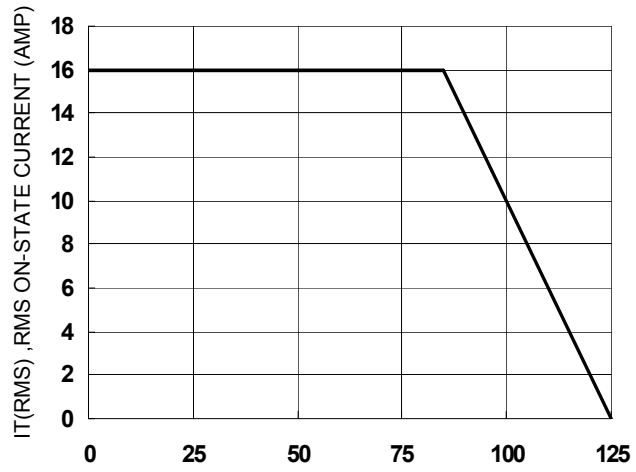


Figure 5. On-State Current Derating Curve

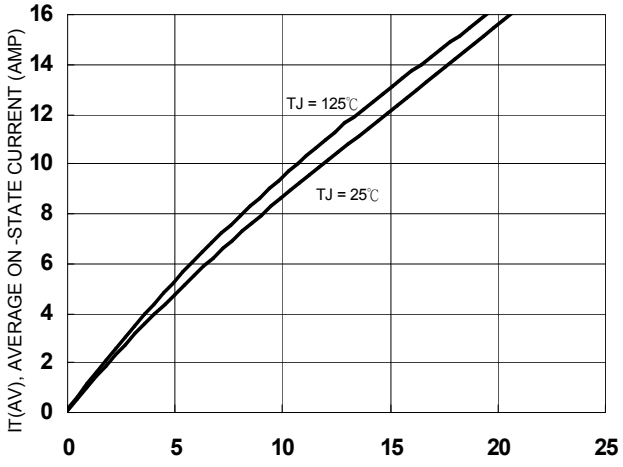


Figure 6. Power Dissipation versus IT

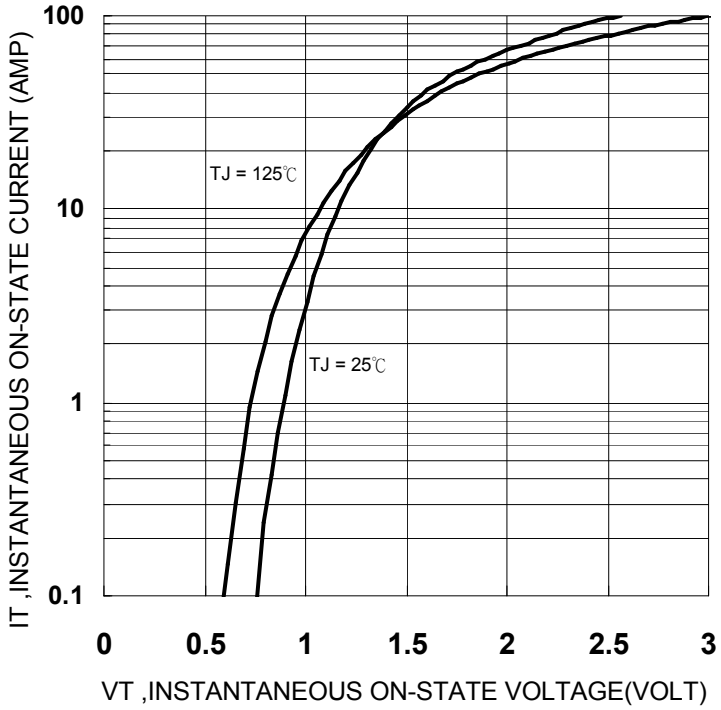


Figure 7. On-State Characteristics

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