LITE-ON SEMICONDUCTOR

S4M02-600F

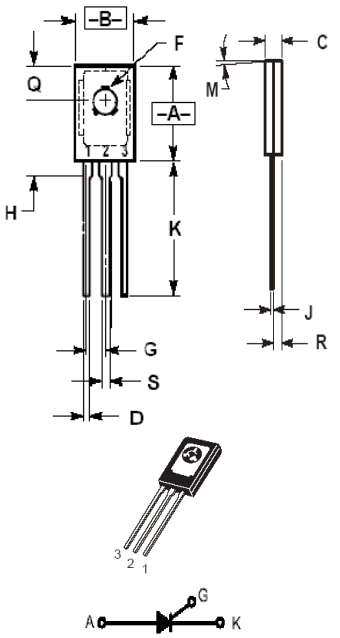
Sensitive Gate
Sillicon Controlled Rectifiers
Reverse Blocking Thyristors

SCRs
4 AMPERES RMS
600 VOLTS

FEATURES

- Glass-Passivated Surface for Reliability and Uniformity
- Power Rated at Economical Prices
- Practical Level Triggering and Holding Characteristics
- Flat, Rugged, Thermopad Construction for Low Thermal
- Resistance, High Heat Dissipation and Durability

TO-126



TO126		
DIM.	MIN.	MAX.
A	10.16	11.43
B	7.12	8.38
C	2.29	3.04
D	0.64	0.88
F	2.54	3.3
G	2.04	2.54
H	-	2.54
J	0.39	0.63
K	15.12	16.63
M	3° TYP	
Q	3.31	4.44
R	0.89	1.65
S	0.64	0.88
All Dimensions in millimeter		

PIN ASSIGNMENT	
1	Cathode
2	Anode
3	Gate

MAXIMUM RATINGS (Tj= 25℃ unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Repetitive Off– State Voltage (TJ= -40 to 110℃, Sine Wave, 50 to 60 Hz; Gate Open)	VDRM, VRRM	600	Volts
On-State RMS Current (TC = 80℃) 180° Conduction Angles	IT(RMS)	4.0	Amp
Peak Non-Repetitive Surge Current (1/2 Cycle, Sine Wave, 60 Hz, TJ = 25℃)	ITSM	25	Amps
Circuit Fusing Consideration (t = 8.3 ms)	I^2t	2.6	A^2s
Forward Peak Gate Power	PGM	1	Watt
Forward Average Gate Power	PG(AV)	0.1	Watt
Operating Junction Temperature Range @ Rate VDRM and VRRM	TJ	-40 to +110	℃
Storage Temperature Range	Tstg	-40 to +150	℃

Notice: (1) VDRM and VRRM for all types can be applied on a continuous basis. Ratings apply for zero or negative gate voltage; positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded

Rev.1, Oct.-2010, KTXD06

THERMAL CHARACTERISTICS

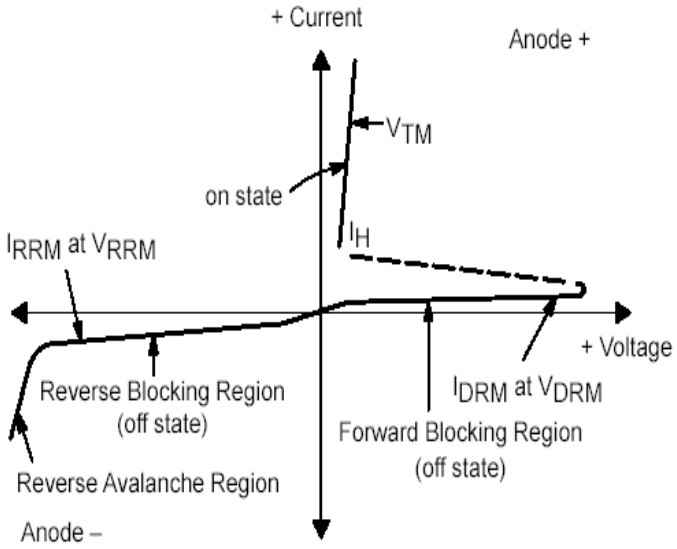
Characteristic	Symbol	Value	Unit
Thermal Resistance - Junction to Case - Junction to Ambient	R_{thJC} R_{thJA}	7.0 75	℃/W
Maximum Lead Temperature for Soldering Purposes 1/16" from Case for 10 Seconds	T_L	260	℃

ELECTRICAL CHARACTERISTICS (TJ=25℃unless otherwise noted)

Characteristics		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Peak Reptitive Forward or Reverse Blocking Current (V_{AK}=Rated VDRM and VRRM; RGK =1K Ohms)	T_J = 25℃ T_J =110℃	I_{DRM} I_{RRM}	---- ----	---- ----	10 200	uA
ON CHARACTERISTICS						
Peak Forward On-State Voltage @TJ=25℃ (I_{TM}= 8.0A Peak, Pulse Width≦ 1.0 ms, Duty Cycle ≦ 1%)		V_{TM}	----	----	2.0	Volts
Gate Trigger Current (V_{AK} = 12 V ; RL = 100 Ohms) (1)		I_{GT}	----	----	200	uA
Holding Current (V_{AK} = 12 V, RL = 100 Ohms)		I_H	----	----	5.0	mA
Gate Trigger Voltage (V_{AK} = 12 V ; R_L =100 Ohms) (1)		V_{GT}	----	----	1.0	Volts
Latching Current (VAK = 12 V, RL = 100 Ohms)		I_L	----	----	10	mA
DYNAMIC CHARACTERISTICS						
Critical Rate of Rise of Off-State Voltage (V_{AK} =0.67% Rated V_{DRM},Exponential Waveform, T_J=110℃ ,RGK=1Kohm)		dv/dt	----	10	----	V/us

(1) R_{GK} current is not included in measurement

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



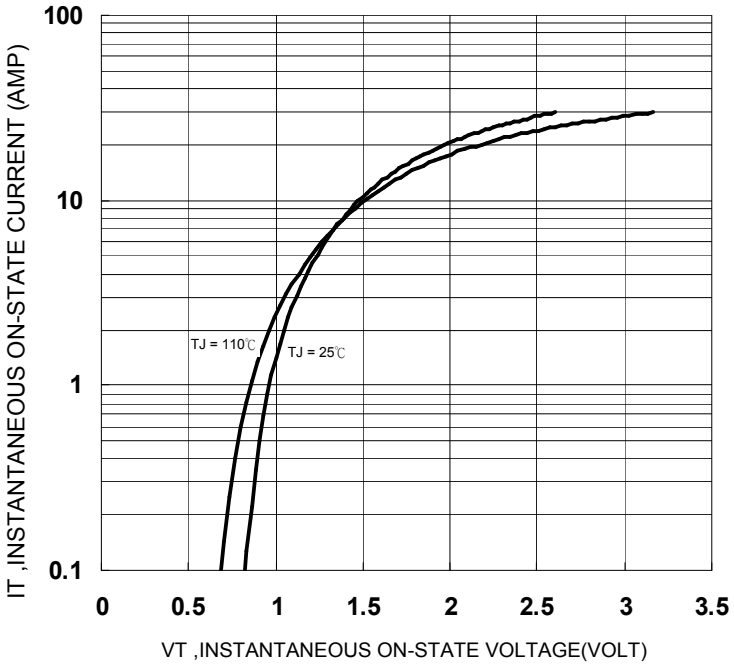


Figure 1. On-State Characteristics

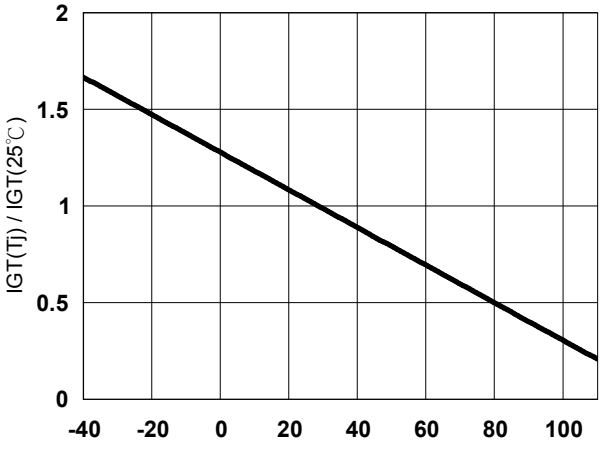


Figure 2. Typical IGT versus TJ

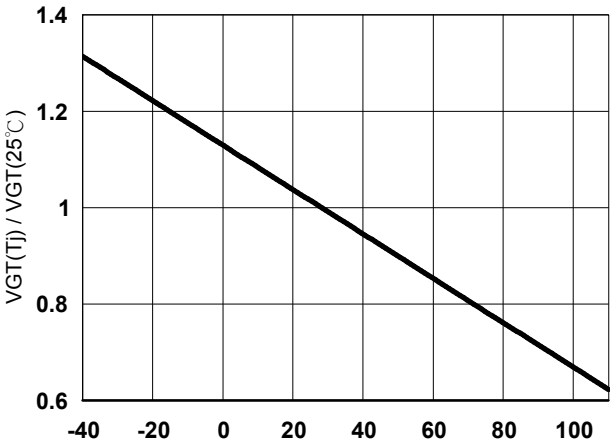


Figure 3. Typical VGT versus TJ

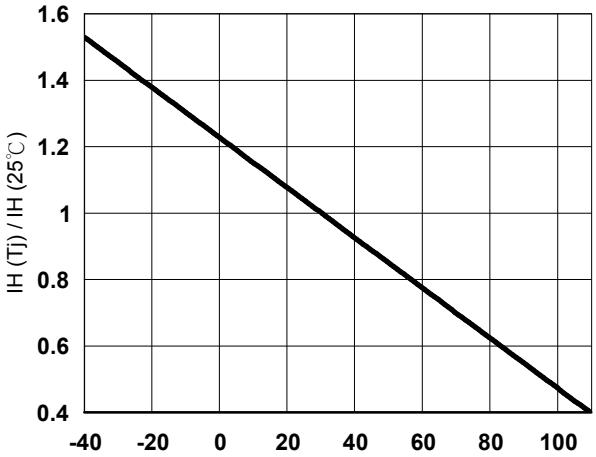


Figure 4. Typical IH versus TJ

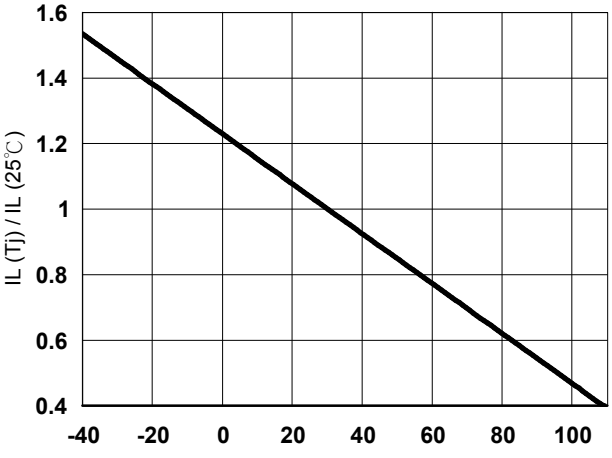


Figure 5. Typical IL versus TJ

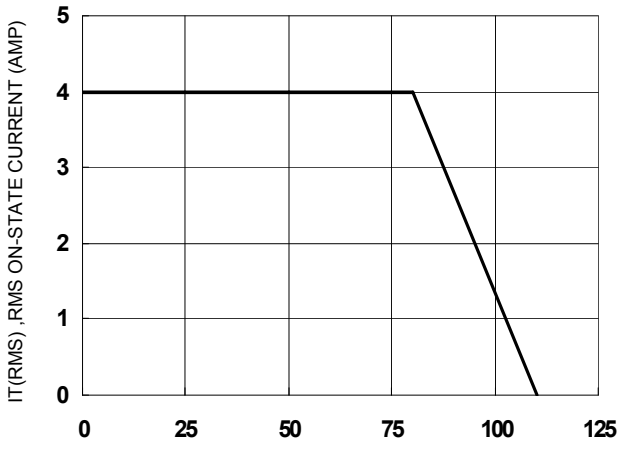


Figure 6. On-State Current Derating Curve

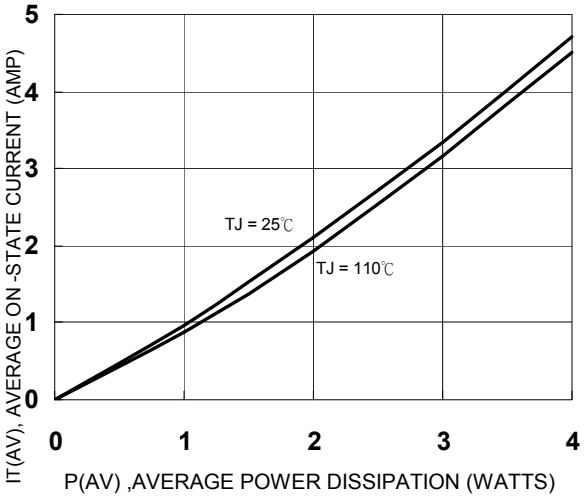
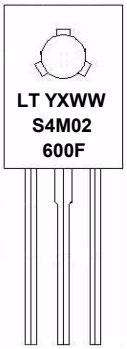


Figure 7. Power Dissipation versus IT

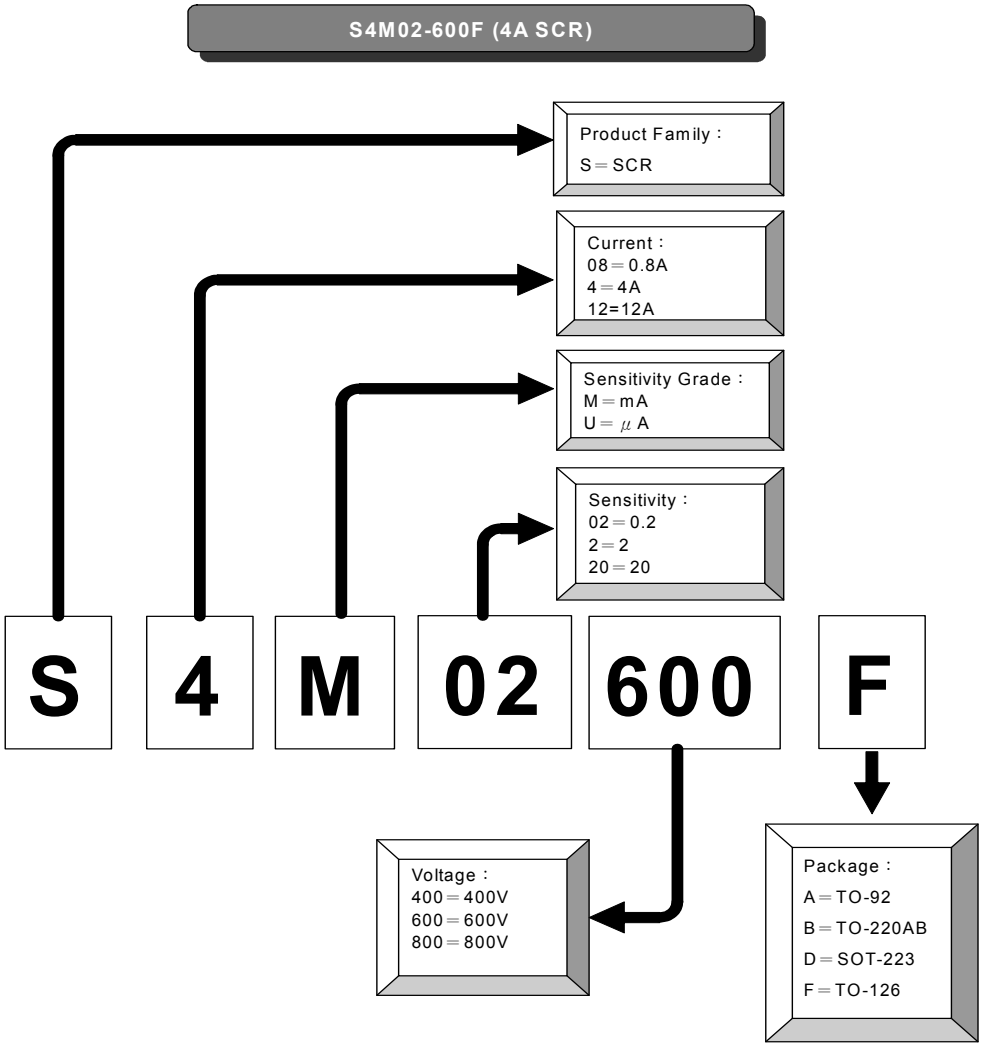
MARKING DIAGRAMS



Y : Year
X : Subcon
WW : Work Week

ORDERING INFORMATION

Ordering type	Marking	Package	Base qty	Delivery mode
S4M02-600F	S4M02600F	TO-126	50	Tube



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