

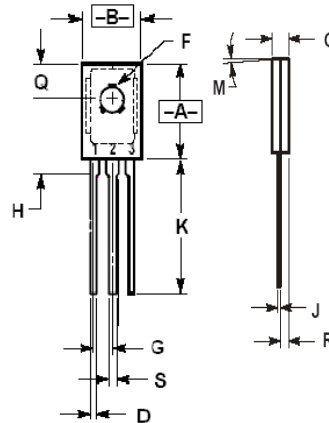
**Sensitive Gate
Silicon Controlled Rectifiers
Reverse Blocking Thyristors**

**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 (T_J= 25°C unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Repetitive Off- State Voltage (T _J = -40 to 110°C, Sine Wave, 50 to 60 Hz; Gate Open)	V _{DRM} , V _{VRRM}	600	Volts
On-State RMS Current (T _C = 80°C) 180° Conduction Angles	I _{T(RMS)}	4.0	Amp
Peak Non-Repetitive Surge Current (1/2 Cycle, Sine Wave, 60 Hz, T _J = 25°C)	I _{TSM}	25	Amps
Circuit Fusing Consideration (t = 8.3 ms)	$I^2 t$	2.6	A ² s
Forward Peak Gate Power	P _{GM}	1	Watt
Forward Average Gate Power	P _{G(AV)}	0.1	Watt
Operating Junction Temperature Range @ Rate V _{DRM} and V _{VRRM}	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. 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

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance - Junction to Case - Junction to Ambient	R _{thJC} R _{thJA}	7.0 75	°C/W
Maximum Lead Temperature for Soldering Purposes 1/16" 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 _{AK} =Rated V _{DRM} and V _{RRM} ; R _{GK} =1K Ohms)	T _J = 25°C	I _{DRM}	----	----	10	uA
	T _J =110°C	I _{RRM}	----	----	200	

ON CHARACTERISTICS

Peak Forward On-State Voltage @T _J =25°C (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 ; R _L = 100 Ohms) (1)	I _{GT}	----	----	200	uA
Holding Current (V _{AK} = 12 V, R _L = 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 (V _{AK} = 12 V, R _L = 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°C , R _{GK} =1Kohm)	dv/dt	----	10	----	V/us
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(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

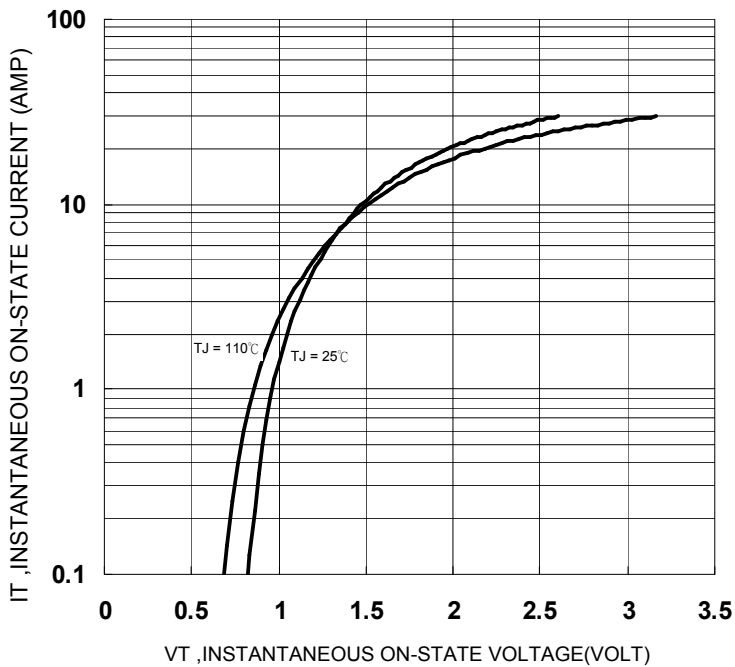
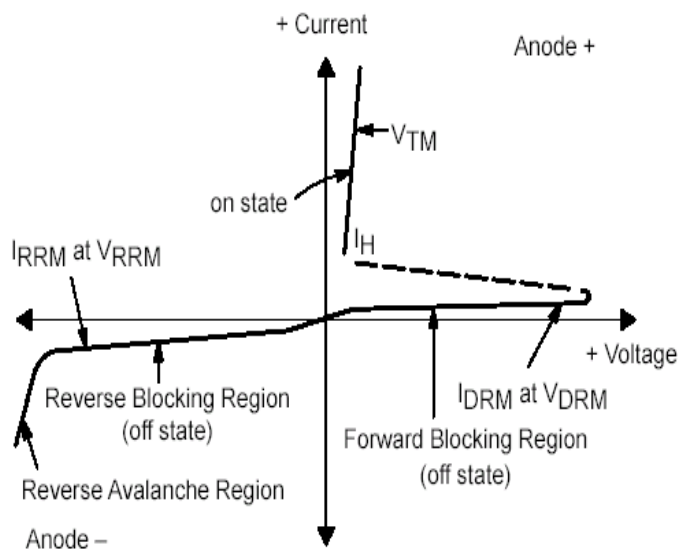
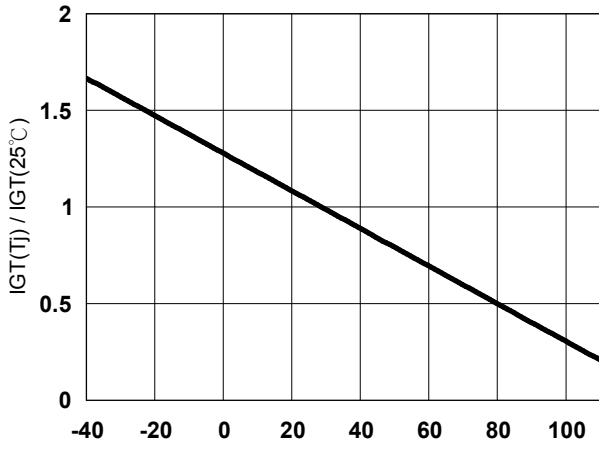
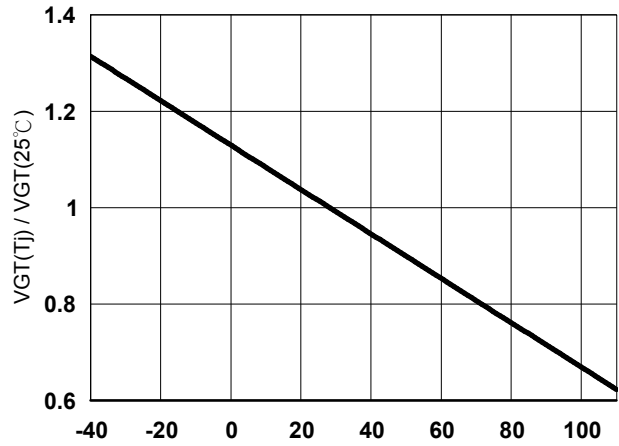


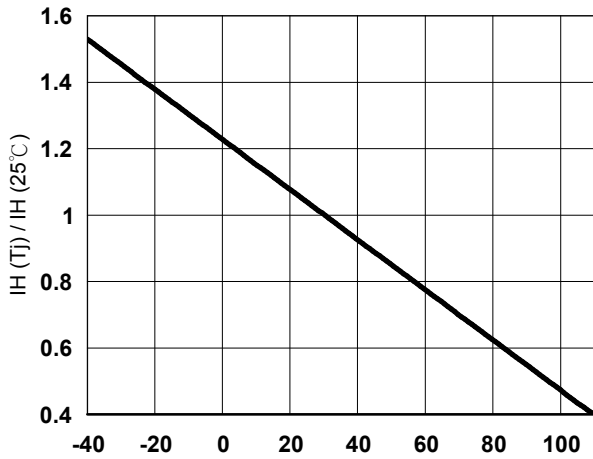
Figure 1. On-State Characteristics



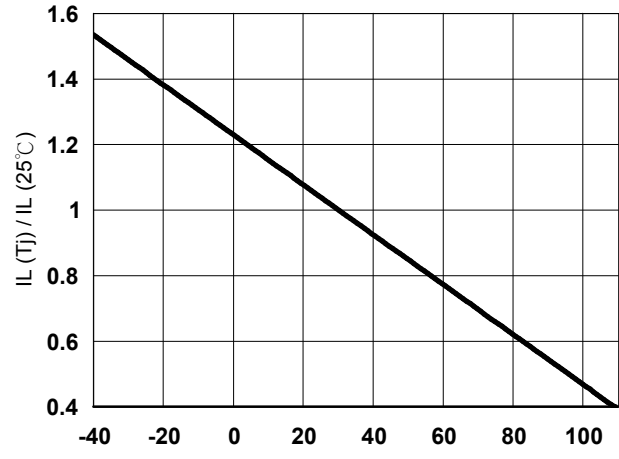
T_J, JUNCTION TEMPERATURE(°C)
 Figure 2. Typical IGT versus T_J



T_J, JUNCTION TEMPERATURE(°C)
 Figure 3. Typical VGT versus T_J



T_J, JUNCTION TEMPERATURE(°C)
 Figure 4. Typical I_H versus T_J



T_J, JUNCTION TEMPERATURE(°C)
 Figure 5. Typical I_L versus T_J

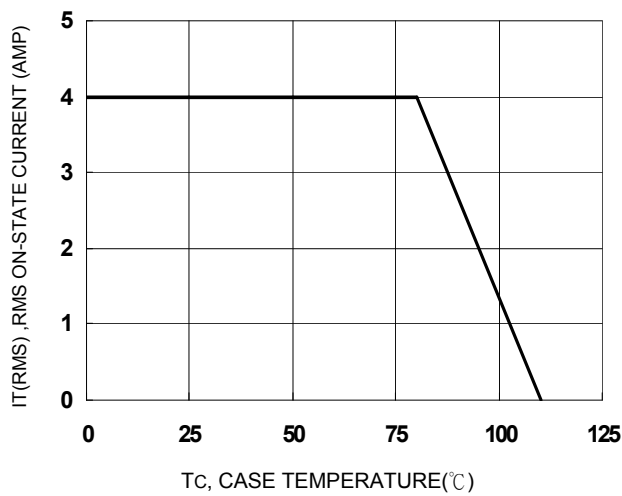


Figure 6. On-State Current Derating Curve

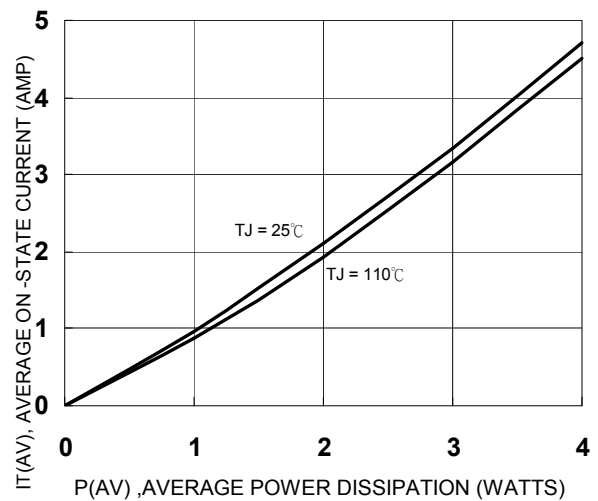
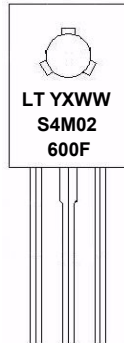


Figure 7. Power Dissipation versus I_T

MARKING DIAGRAMS

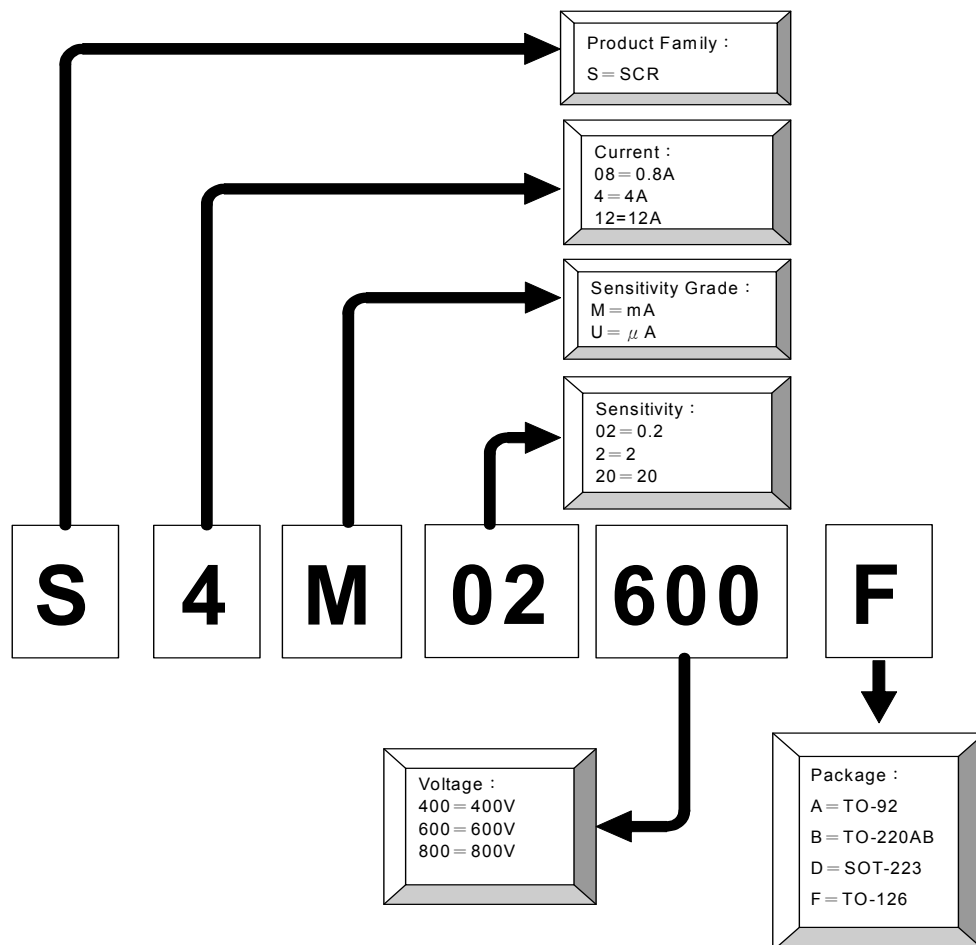


Y : Year
X : Subcon
WW : Work Week

ORDERING INFORMATION

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

S4M02-600F (4A SCR)



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