

## SB7560S 75A SCRs

### FEATURES

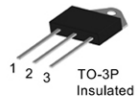
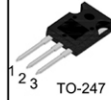
- High thermal conduction performance
- High voltage capacity
- Very high current surge capability

### APPLICATIONS

- Line rectifying 50/60 Hz
- Softstart AC motor control
- DC Motor control
- Power converter
- AC power control
- Lighting and temperature control

### Parameters Summary

XB7560S 75A SCR (TO-247) (TO-3P Insulated) (T<sub>RM</sub>) 75A IGT 50mA



### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T <sub>stg</sub>	-40~150	°C
Operating junction temperature range	T <sub>j</sub>	-40~125	°C
Repetitive peak off-state voltage (T=25°C)	V <sub>DRM</sub>	1200/1000	V
Repetitive peak reverse voltage (T=25°C)	V <sub>RRM</sub>	1000/1000	V
Non repetitive surge peak Off-state voltage	V <sub>DSM</sub>	V <sub>DRM</sub> +100	V
Non repetitive peak reverse voltage	V <sub>RRSM</sub>	V <sub>RRM</sub> +100	V
RMS on-state current (T=100°C)	I <sub>T(RMS)</sub>	75	A
Non repetitive surge peak on-state current	I <sub>TSM</sub>	700	A
I <sup>2</sup> t value for fusing (tp=10ms)	I <sup>2</sup> t	2450	A <sup>2</sup> S
Critical rate of rise of on-state current (I=2×IGT, tr ≤ 100 ns)	di/dt	150	A/μS
Peak gate current	I <sub>GM</sub>	5	A
Average gate power dissipation	P <sub>G(AV)</sub>	2	W

### Thermal resistances

Symbol	Parameter	Value	Unit
Rth(j-c)	Junction to case (DC)	TO-3P	0.60
		TO-247	0.55
			°C/W

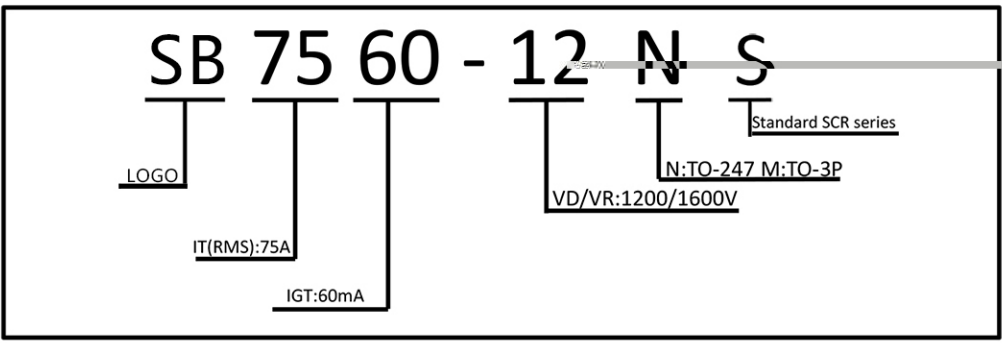
**Electrical Characteristics (V<sub>GT</sub> = 12V, I<sub>GT</sub> = 100mA)**

Symbol	Parameter	Typical Value	Unit
V <sub>GT</sub>	Gate Trigger Voltage	12	V
V <sub>GD</sub>	Gate-Diode Forward Voltage	1.0	V
I <sub>T</sub>	Forward Current	75	A
dV/dt	Forward Voltage Drop	1.2	V

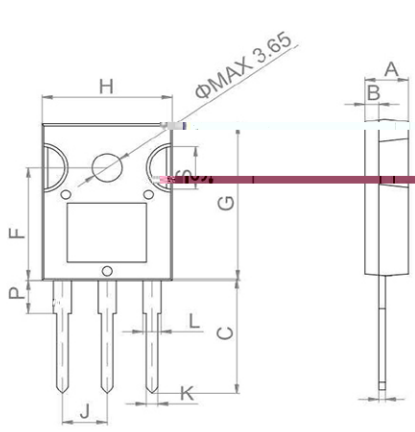
**Typical Characteristics**

Symbol	Parameter	Typical Value
V <sub>GT</sub>	ITM = 140A tp = 380μs	12
V <sub>GD</sub>	Gate-Diode Forward Voltage	1.0
V <sub>GT</sub>	Gate-Diode Forward Voltage	1.0
V <sub>GD</sub>	Gate-Diode Forward Voltage	1.0

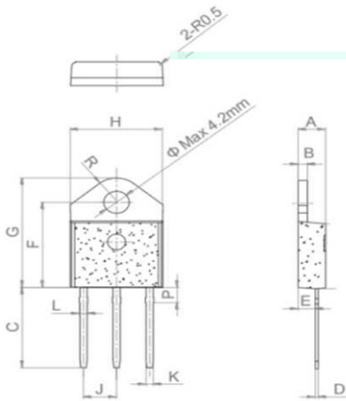
**Ordering Information Scheme**



**TO-247 Package Mechanical Data**



## TO-37 Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
A	4.40	4.60	0.173	0.181		
B	1.40	1.60	0.055	0.062		
C	15.48	15.88	0.609	0.625		
D	0.50	0.70	0.019	0.027		
E	2.70	2.90	0.106	0.114		
F	15.92	16.32	0.626	0.642		
G	20.27	20.67	0.798	0.817		
H	15.15	15.35	0.590	0.604		
J		5.45		0.214		0.216
K	1.10	1.30	0.043	0.051		
L	1.15	1.35	0.045	0.053		
P	2.68	3.08	0.105	0.121		
R		4.20		0.165		

FIG.1 Maximum power dissipation versus on-state current

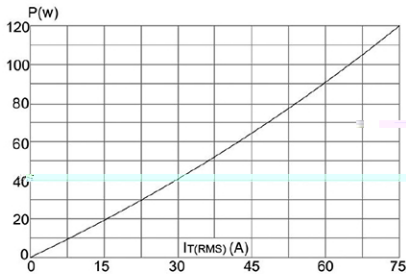


FIG.2: on-state current versus case temperature

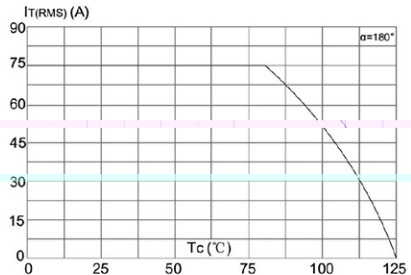


FIG.3: Surge peak on state current versus number of cycles

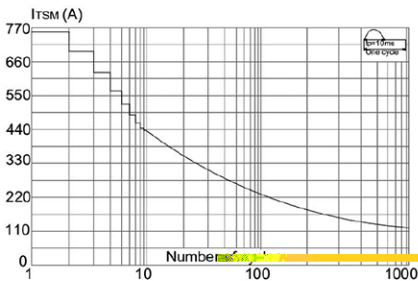


FIG.4: On state characteristics (maximum values)

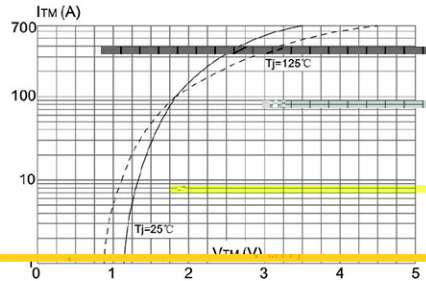


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$ , and corresponding value of  $I_2 t$  ( $di/dt < 50\text{A}/\mu\text{s}$ )

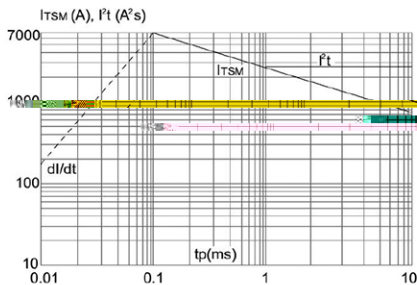


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

