

## SB7560S 75A SCR's

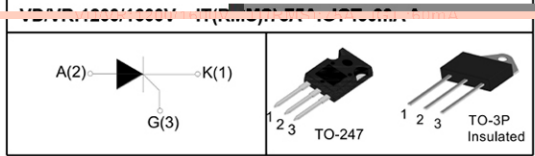
### FEATURES

- High thermal cycling 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



### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T <sub>stg</sub>	-40~150	°C
Operating junction temperature range	T <sub>op</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>DSM</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

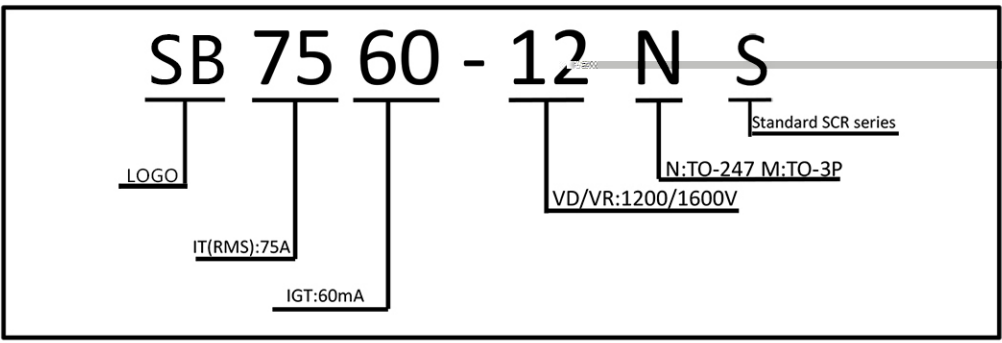
Symbol	Parameter	Value	Unit
Rth(j-c)	Junction to case (DC)	TO-3P	°C/W
		TO-247	

**ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)**

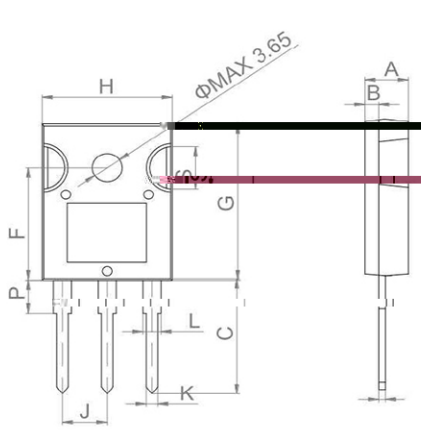
Symbol	Parameter	Value
$V_{GT}$	Gate Trigger Voltage	12V
$R_{GT}$	Gate Trigger Resistance	140Ω
$V_{DRM}$	Reverse Blocking Voltage	1200V
$I_{GT}$	Gate Trigger Current	60mA
$\alpha$	Current Gain	100

Symbol	Parameter	Value
$V_{TM}$	Thyristor Turn-on Voltage	ITM = 140A tp = 380μs
$V_{TM}$	Thyristor Turn-off Voltage	VTM = 10V
$V_{TM}$	Thyristor Turn-off Voltage	VTM = 10V

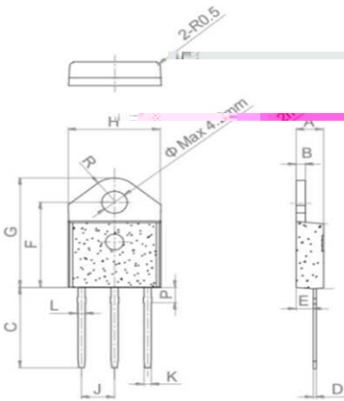
**Ordering Information Scheme**



**TO-247 Package Mechanical Data**



# TO-37 Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	$L_{min}$	$L_{typ}$	$L_{max}$	$L_{min}$	$L_{typ}$	$L_{max}$
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

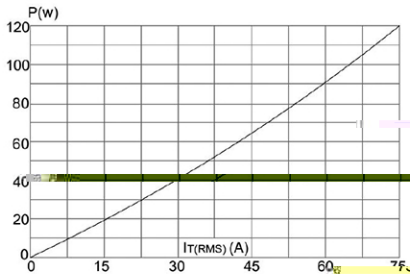


FIG.2: on-state current versus case temperature

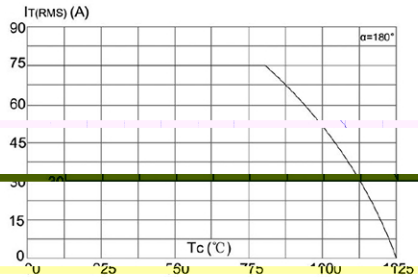


FIG.3: Surge peak on state current versus number of cycles

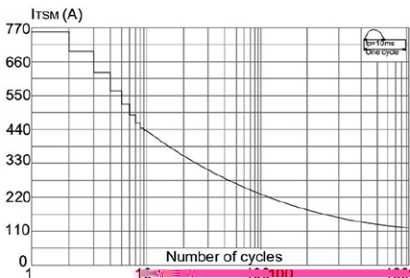


FIG.4: On state characteristic curves (maximum values)

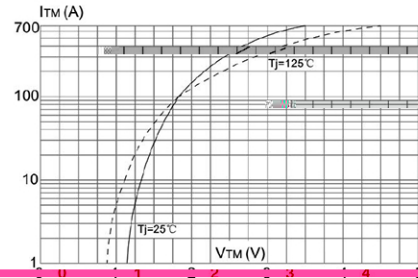


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$ , and corresponding value of  $I_2 t$  ( $di/dt < 50\text{A}/\mu\text{s}$ )

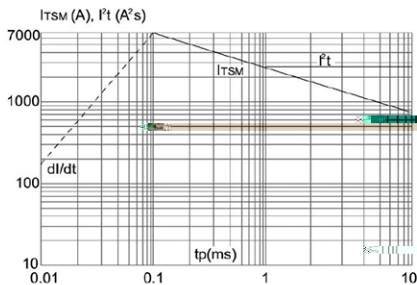


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

