

## SB7560S 75A SCRs

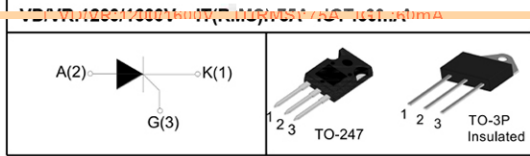
### FEATURES

- 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>oj</sub>	-40~150	°C
Repetitive peak off-state voltage (T = 25°C)	V <sub>DRM</sub>	1200/1600	V
Repetitive peak reverse voltage (T = 25°C)	V <sub>KRM</sub>	1200/1600	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>KSM</sub>	V <sub>DRM</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

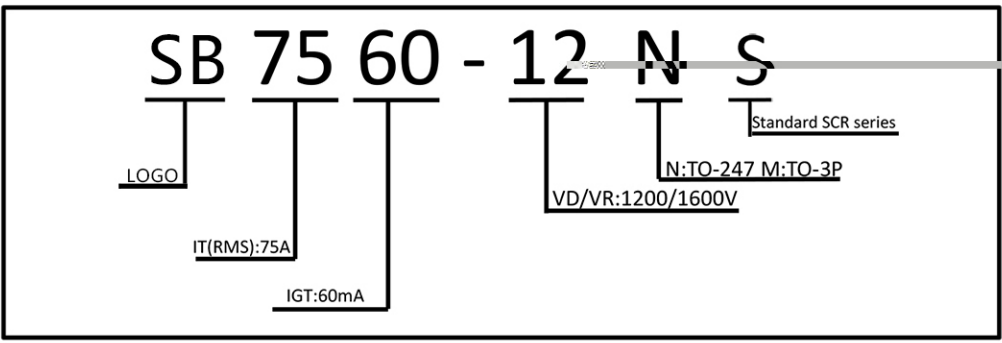
Electrical Characteristics (Unless otherwise specified)

Symbol	Test Condition	Value
$I_{GT}$	$V_{GT} = 12V, R = 10\Omega$	60mA
$V_{GT}$		12V
$V_{DRM}$	$V_D = V_{DRM}, T_j = 125^\circ C, R = 1K\Omega$	1200V
$I_T$	$I_G = 1.2I_{GT}$	75A
$dV/dt$	$V_m = 100V, I_T = 0mA$	100V/ $\mu s$

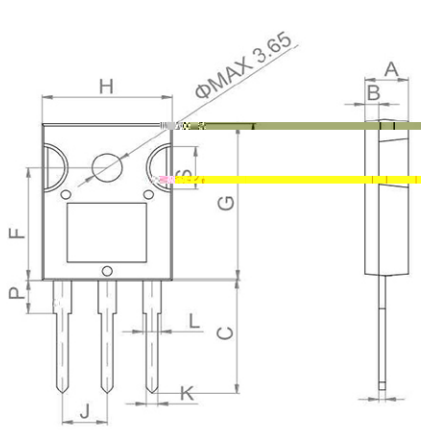
Static Characteristics

Symbol	Parameter	Value
$V_{TM}$	$I_{TM} = 140A, t_p = 380\mu s$	$T_j = 25^\circ C$
$I_{DRM}$		$T_j = 125^\circ C$
$I_{RRM}$		$T_j = 125^\circ C$

### Ordering Information Scheme

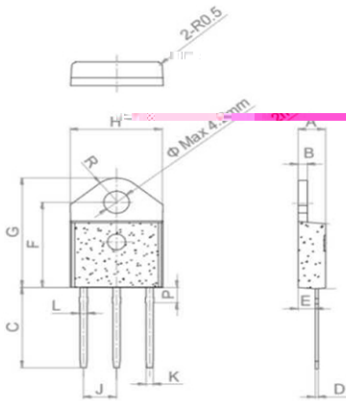


### TO-247 Package Mechanical Data



Ref.	Dimensions		
	Millimeters		Inches
A	4.9	5.4	0.193
B	1.6	2.0	0.063
C	14.35	13.4	0.565
D	0.5	0.8	0.020
F	14.4	15.1	0.567
G	19.7	20.6	0.775
H	15.4	14.2	0.606
J	5.3	5.6	0.209
K	1.3	1.5	0.075
L	2.8	3.3	0.110
P	3.7	4.2	0.146
S	5.35	5.65	0.223

# TO-3P 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		0.815
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

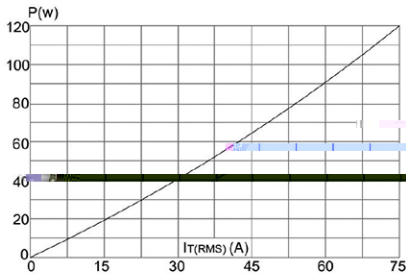


FIG.2: on-state current versus case temperature

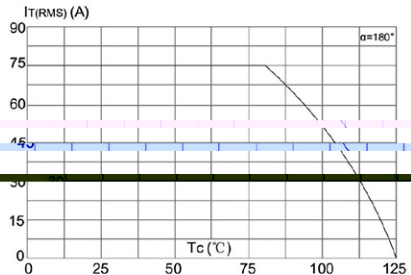


FIG.3: Surge peak on-state current versus number of cycles

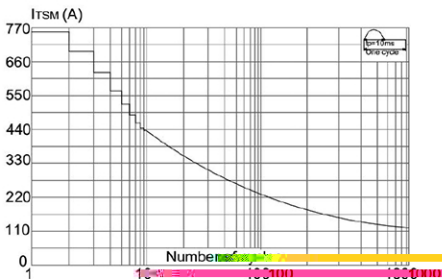


FIG.4: On-state characteristics (maximum value)

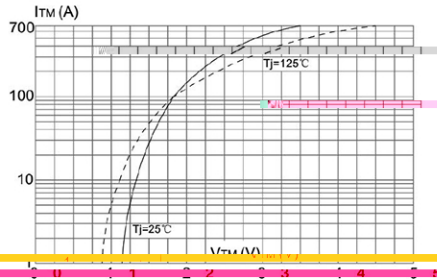


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$ , and corresponding value of  $I_2 t$  ( $di/dt < 50\text{A}/\mu\text{s}$ )

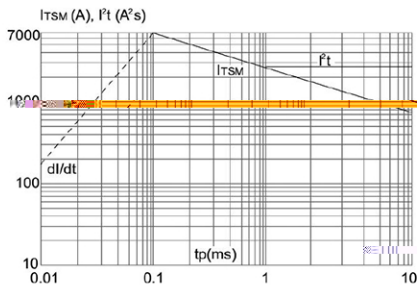


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

