

SB7560S 75A SCRs


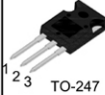
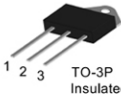
FEATURES

- High thermal reliability and 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

	 TO-247	 TO-3P Insulated
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ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T _{stg}	-40~150	°C
Operating junction temperature range	T _j	-40~125	°C
Repetitive peak off-state voltage (T = 25°C)	V _{DRM}	1200/1600	V
Repetitive peak reverse voltage (T = 25°C)	V _{RRM}	1200/1600	V
Non repetitive surge peak Off-state voltage	V _{DSM}	V _{RRM} + 100	V
Non repetitive peak reverse voltage	V _{RSM}	V _{RRM} + 100	V
RMS on-state current (T = 100°C)	I _{TRMS}	75	A
Non repetitive surge peak on-state current	I _{TSM}	700	A
I ² t value for fusing (tp=10ms)	I ² t	2450	A ² s
Critical rate of rise of on-state current (I = 2×IGT, tr ≤ 100 ns)	di/dt	150	A/μS
Peak gate current	I _{GM}	5	A
Average gate power dissipation	P _{G(AV)}	2	W

Thermal Resistances

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to case (DC)	TO-3P	0.60
		TO-247	0.55
			°C/W

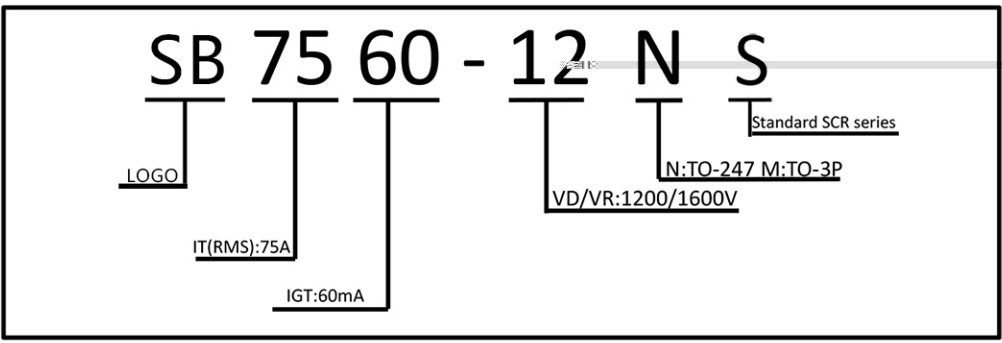
UNLESS OTHERWISE SPECIFIED

Symbol	Parameter	Value	Unit
V_{GT}	$V_{GT} = 12V$		
V_{DRM}	$V_{DRM} = 120V$		
I_T	$I_T = 75A$		
α/dt	$\alpha/dt = 100V/\mu s$		

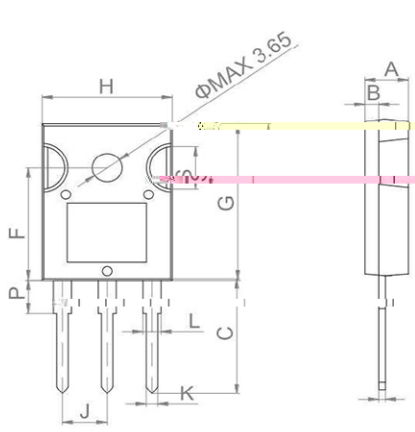
STATIC CHARACTERISTICS

Symbol	Parameter	Value(MAX.)	Unit
V_{TM}	ITM = 140A tp=380μs		V
I_{DKM}	$V_{TM} = 140V$	200	μA
I_{RRM}	$V_{TM} = 140V$	8	mA

Ordering Information Scheme

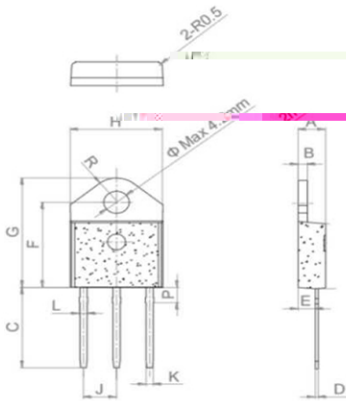


TO-247 Package Mechanical Data



Symbol	Value	Unit
ϕ_{MAX}	3.65	mm
H	5.4	mm
F	0.193	mm
P	0.8	mm
J	0.206	mm
K	0.775	mm
L	1.62	mm
C	0.025	mm
G	0.025	mm
A	0.025	mm
B	0.025	mm

TO-3P Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	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		0.814
H	15.15		15.35	0.590		0.604
J		5.45			0.214	
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

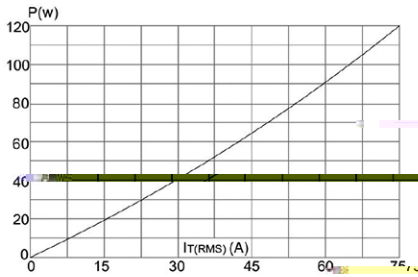


FIG.2: on-state current versus case temperature

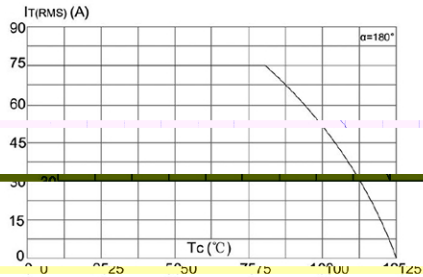


FIG.3: Surge peak on-state current versus number of cycles

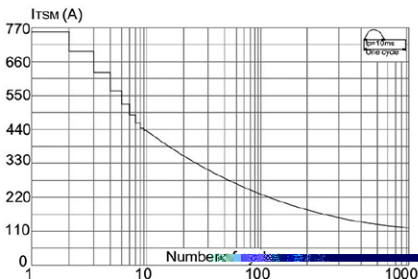


FIG.4: On state characteristics (maximum values)

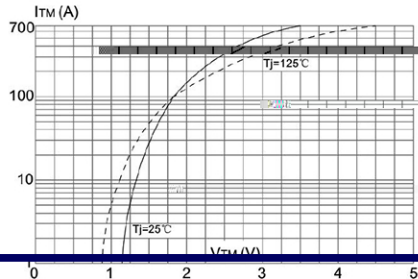


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I_2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

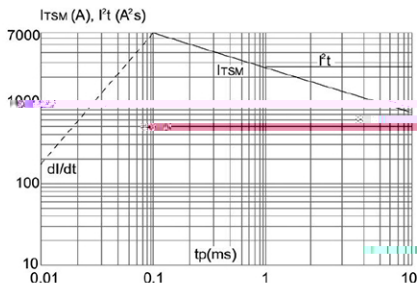


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

