SB7560S 75A SCRs

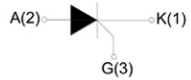
FEATURES

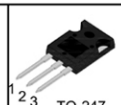
- High thermal cycling performance
- High voltage capacity
- Very high current surge capability

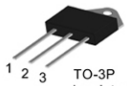
APPLICATIONS

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

Parameters Summary







SMD Device Halogen Free

Pb-free

RoHS COMPLIANT

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	Tstg	-40 ~150	℃
Operating junction temperature range	T_{j}	-40 ~125	℃
Repetitive peak off-state voltage (T =25℃)	V_{DRM}	1200/1600	V
Repetitive peak reverse voltage (T =25℃)	V_{RRM}	1200/1600	V
Non repetitive surge peak Off-state voltage	V_{DSM}	V_{DRM} +100	V
Non repetitive peak reverse voltage	V_{RSM}	V_{RRM} +100	V
RMS on-state current (T =100℃)	$I_{T(RMS)}$	75	A
Non repetitive surge peak on-state current	I_{TSM}	700	A
I^2t value for fusing (tp=10ms)	I^2t	2450	A^2s
Critical rate of rise of on-state curren t(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
Rth(j-c)	Junction to case (DC)	TO-3P	0. 60	℃/W
		TO-247	0. 55	

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise specified)

Symbol	Test Condition		MIN.	TYP.	MAX.	Unit
I_{GT}	V_D=12V R_L=140Ω		20	40	60	[illegible]
V_{GT}			[illegible]	[illegible]	[illegible]	[illegible]
V_{GD}	V_D=V_{DRM} T_j=125°C R_L=1KΩ		[illegible]	[illegible]	[illegible]	[illegible]
I_L	I_G=1.2I_{GT}		[illegible]	[illegible]	[illegible]	mA
I_H	I_T=50mA		[illegible]	[illegible]	[illegible]	mA
dV/dt	V_D=2/3V_{DRM} Gate Open T_j=125°C		500	[illegible]	[illegible]	V/μs

STATIC CHARACTERISTICS

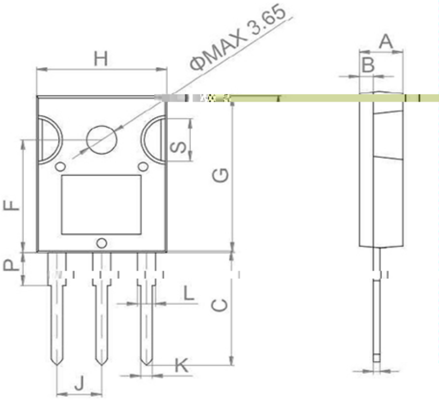
Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	ITM =140A tp=380µs	[illegible]	1.8	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	[illegible]	200	µA
I_{RRM}		[illegible]	8	mA

Ordering Information Scheme

SB 75 60 - 12 N S

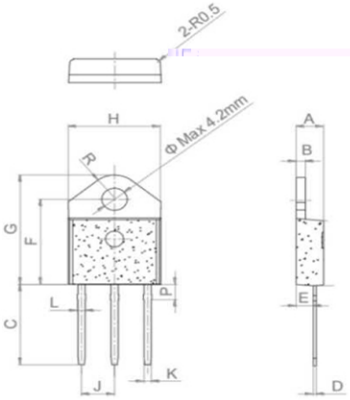
- LOGO
- IT(RMS):75A
- IGT:60mA
- VD/VR:1200/1600V
- N:TO-247 M:TO-3P
- Standard SCR series

TO-247 Package Mechanical Data



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	[illegible]	5.4	0.193	[illegible]
B	[illegible]	2.0	0.063	0.079
C	[illegible]	[illegible]	0.565	[illegible]
D	0.5	0.8	0.020	0.031
E	[illegible]	[illegible]	[illegible]	[illegible]
F	[illegible]	20.6	[illegible]	[illegible]
G	15.4	16.2	0.606	0.638
J	[illegible]	[illegible]	0.209	0.220
K	[illegible]	1.5	0.051	0.059
L	[illegible]	3.3	[illegible]	[illegible]
P	[illegible]	4.2	[illegible]	[illegible]
S	5.35	[illegible]	0.211	[illegible]

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		0.813
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

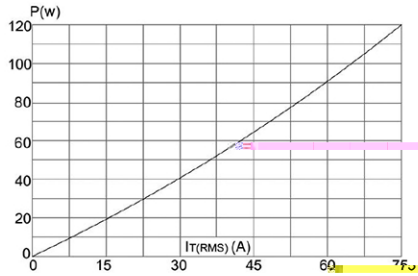


FIG.2: on-state current versus case temperature

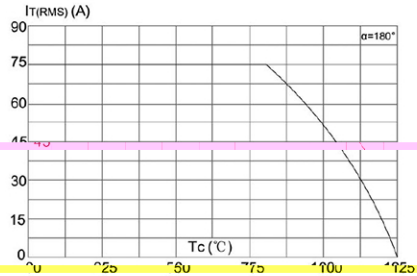


FIG.3: Surge peak on-state current versus number of cycles

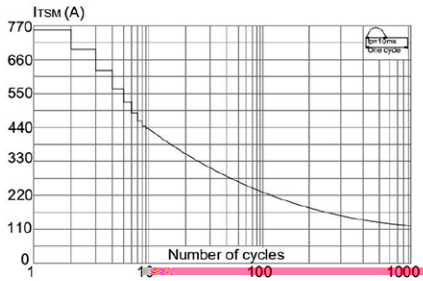


FIG.4: On-state characteristics (maximum values)

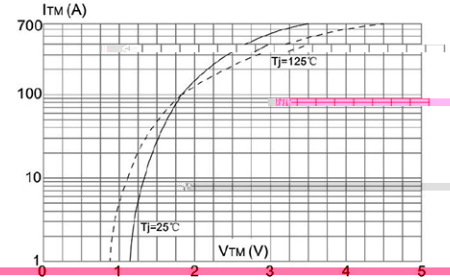


FIG.5: Non-repetitive surge peak on-state currentfor a sinusoidal pulse with width tp<10ms, and corresponding value of I2 t (dI/dt < 50A/μs)

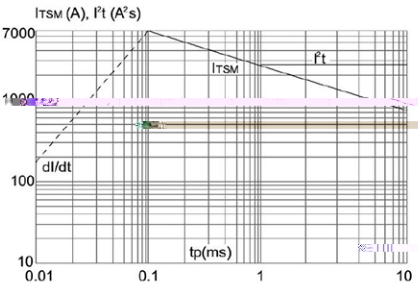


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature