

SB5560S 55A SCKS

FEATURES

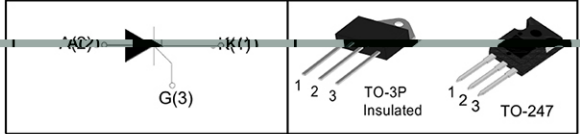
- High thermal cycling performance
- High voltage capacity
- Very high current surge capability

APPLICATIONS

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

Parameters Summary

VD/VR:1200/1600V IT(RMS):55A IGT :60mA



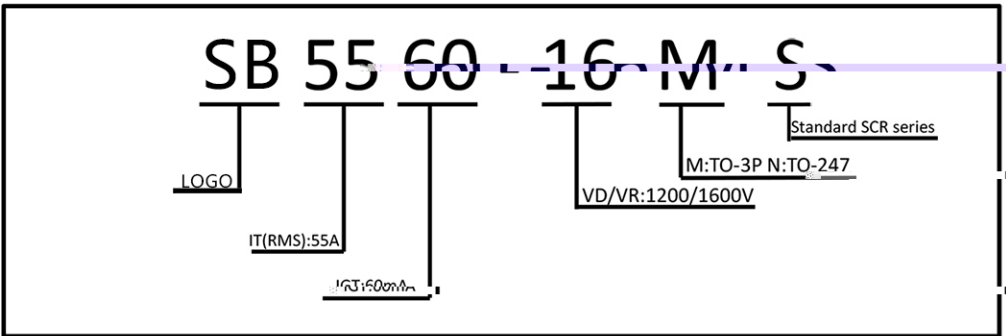
ABSOLUTE MAXIMUM RATINGS			
Parameter	Symbol	value	Unit
Storage junction temperature range	Tstg	-40 ~ 150	°C
Operating junction temperature range	Tj	-40 ~ 125	°C
Repetitive peak off-state voltage (Tj=25°C)	V _{DRM}	1200/1600	V
Repetitive peak reverse voltage (Tj=25°C)	V _{RRM}	1200/1600	V
Non repetitive 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	TO-3PIns.(TC=80°C)	I _{TSM}	55
	TO-247(TC=85°C)		
Non repetitive surge peak on-state current	I _{TSM}	550	A
Average on-state current (180° conduction angle)	I _{T(AV)}	35	A
I ² t value for fusing (tp=10ms)	I ² t	1500	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
Rth(j-c)	Junction to case (DC)	TO-3P	0.65
		TO-247	0.60

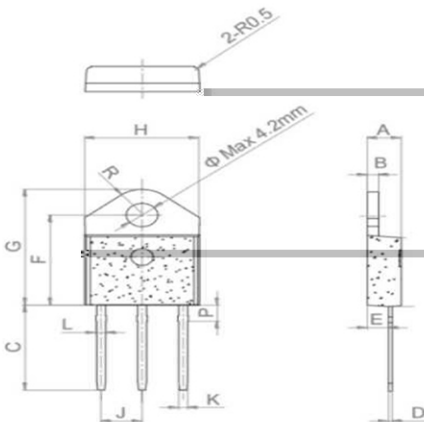
Symbol	Test Condition	Value	Unit
V_{DRM}	$V_D = V_{DRM}$ $T_j = 125^\circ\text{C}$	MIN.	0.2
$I_{T(RMS)}$	$I_a = 1.2 I_{T(RMS)}$	MAX.	250
I_H	$I_H = 50\text{mA}$	MAX.	200
dV/dt	$V_a = 212\text{V}$ $f_{rate\ of\ comm.} = 1\text{kHz}$	MAX.	10000

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Ordering information Scheme

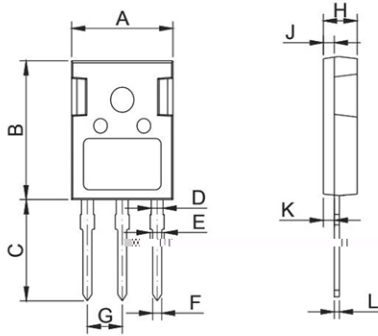


TO-3P Package Mechanical Data



Ref.	Dimensions	mm
A	14.00	±0.15
B	8.00	±0.15
C	11.40	±0.15
D	4.60	±0.15
F	15.50	±0.15
G	20.20	±0.15
H	16.20	±0.15
J	10.00	±0.15
K	10.00	±0.15
L	15.00	±0.15
P	15.00	±0.15
R	15.00	±0.15

TO-247 Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.50	15.80	16.00	0.610	0.622	0.634
B	20.80	21.00	21.20	0.819	0.827	0.839
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.00	0.071	0.079	0.079
E	1.90	2.10	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G		5.44			0.214	
H	4.30	5.00	5.20	0.189	0.197	0.205
J	1.90	2.00	2.10	0.075	0.079	0.083
K	2.20	2.35	2.50	0.087	0.093	0.098
L	0.41	0.60	0.79	0.016	0.024	0.031

FIG.1 Maximum power dissipation versus on-state current

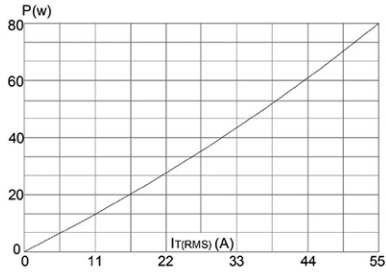


FIG.2: on-state current versus case temperature

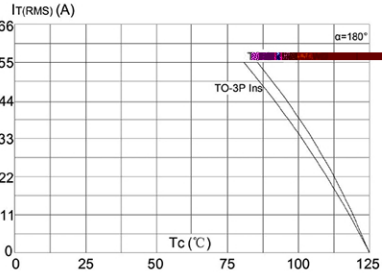


FIG.3: Surge peak on-state current versus number of cycles

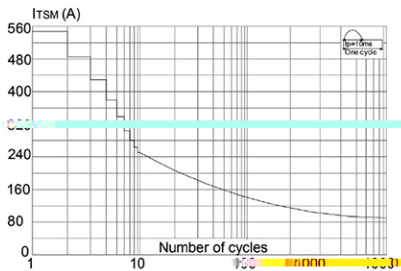


FIG.4: On-state characteristics (maximum values)

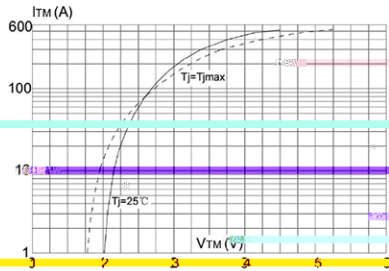


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I_2 t$

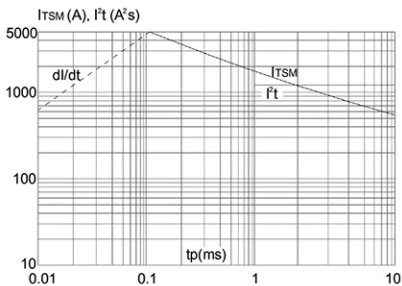


FIG.6: Relative variation of gate trigger current I_{GT} and latching current I_{HL} versus junction temperature

