



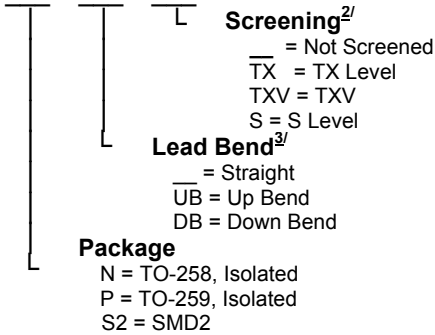
Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SSG60N60 Series

DESIGNER'S DATA SHEET

Part Number/Ordering Information^{1/}
SSG60N60



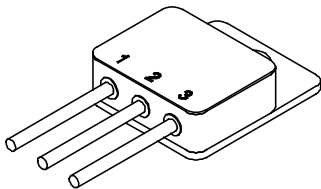
85 AMP / 600 Volts Fast Power IGBT

Features:

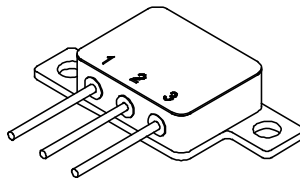
- 600V IGBT technology
- Positive temperature coefficient for ease of paralleling
- High current switching for motor drives and inverters
- Low saturation voltage at high currents
- Low switching losses
- High short circuit capability
- MOS input, voltage controlled
- Hermetic sealed construction
- TX, TXV, S-level screening available

Maximum Ratings	Symbol	Value	Units
Collector – Emitter Voltage	V_{CEO}	600	V
Continuous Collector Current	I_C	@ $T_c = 25^\circ C$ 85	A
Average Diode Current		@ $T_c = 100^\circ C$ 60	
Peak Collector Current	$I_{C(pk)}$	200	A
Gate – Emitter Voltage	V_{GE}	± 20	V
Operating & Storage Temperature	T_J & T_{STG}	-65 to +200	$^\circ C$
Total Device Dissipation	P_D	@ $T_c = 25^\circ C$ 350	W
Thermal Resistance	$R_{\theta JC}$	1.0	$^\circ C/W$
Junction to Case			

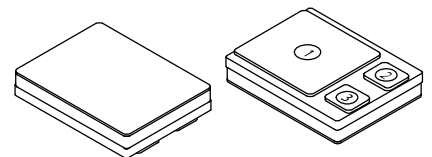
TO-258 (N)



TO-259 (P)



SMD2 (S2)



NOTES: *Pulse Test: Pulse Width = 300 μ sec, Duty Cycle = 2%.

^{1/} For ordering information, price, and availability - contact factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} Up and down bend configurations available for TO-258 (N) and TO-259 (P) packages only.

^{4/} Unless otherwise specified, all electrical characteristics @25 $^\circ C$.

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: TG0004B

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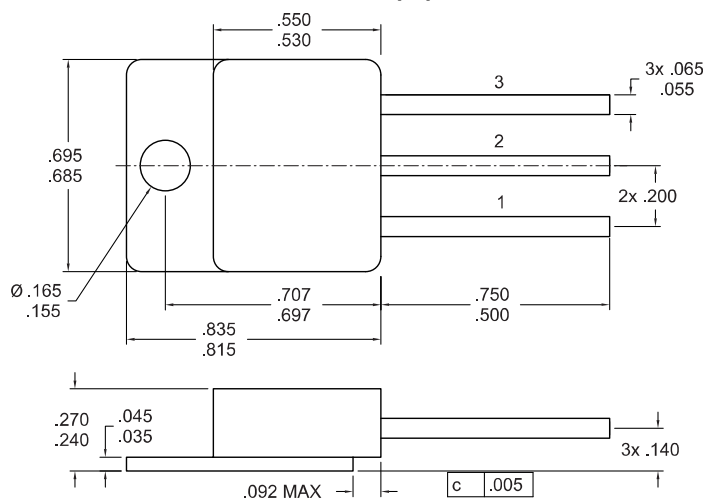
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SSG60N60 Series

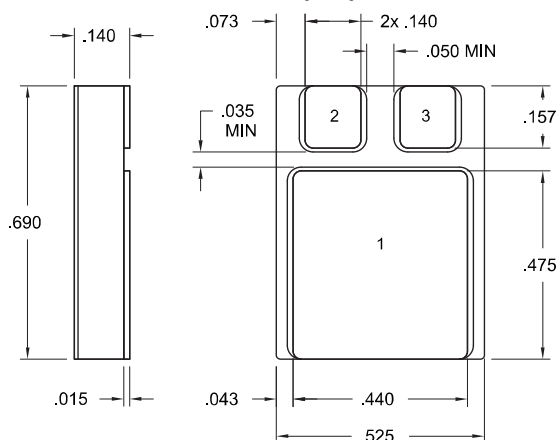
Electrical Characteristics ^{4/}		Symbol	Min	Typ	Max	Units
Collector – Emitter Breakdown Voltage	$V_{GE} = 0V, I_C = 250\mu A$	$V_{(BR)CES}$	600	—	—	V
Collector – Emitter Saturation Voltage	$V_{GE} = 15V, I_C = 60A$	$V_{CE(SAT)}$	—	2.0	2.5	V
Gate – Emitter Threshold voltage	$V_{GE} = V_{CE}, I_C = 250mA$	$V_{GE(th)}$	3	—	6.5	V
Zero Gate Voltage Collector Current	$T_J = 25^\circ C$ $T_J = 150^\circ C$	I_{CES}	—	0.5	250	μA mA
Gate – Emitter Leakage Current	$V_{GE} = 20V, V_{CE} = 0V$	I_{GES}	—	10	100	nA
Input Capacitance	$V_{CE} = 25V, V_{GE} = 0V, f = 1 MHz$	C_{ISS}	—	4000	—	pF
Output Capacitance	$V_{CE} = 25V, V_{GE} = 0V, f = 1 MHz$	C_{OSS}	—	300	—	pF
Reverse Transfer Capacitance	$V_{CE} = 25V, V_{GE} = 0V, f = 1 MHz$	C_{RSS}	—	55	—	pF
Turn on Delay Time	$V_{CC} = 400V, I_C = 50A_{DC},$ $V_{GE} = 15V, t_p = 10\mu sec,$ Duty Cycle $\leq 1\%$	$t_{d(on)}$	—	85	—	nsec
Rise Time		t_r	—	140	—	
Turn off Delay Time		$t_{d(off)}$	—	300	—	
Fall Time		t_f	—	150	—	

TO-258 (N)

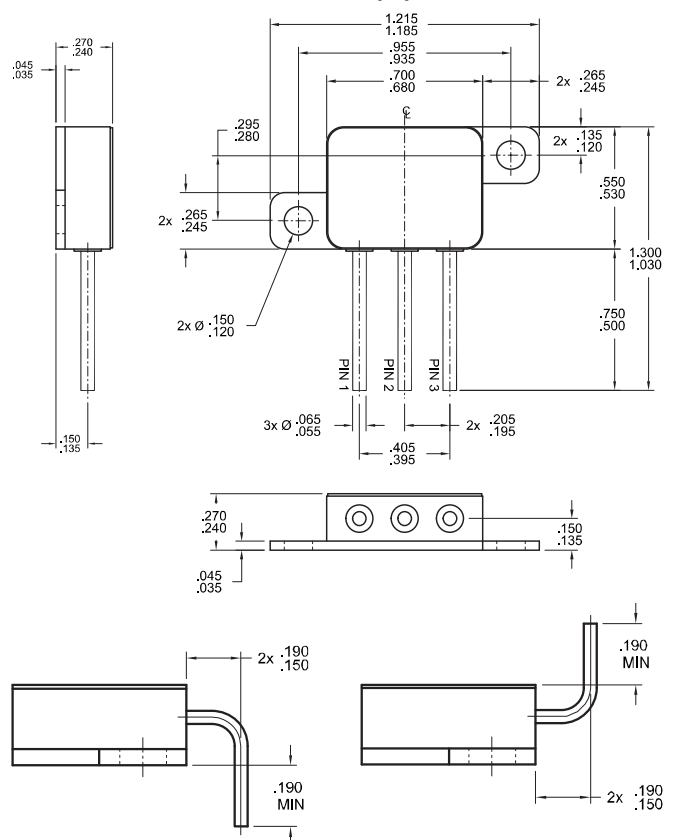


TOLERANCES ARE $\pm .005$ UNLESS OTHERWISE SPECIFIED

SMD2 (S2)



TO-259 (P)



Available Part Numbers:

SSG60N60N, SSG60N60NUB, SSG60N60NDB,
 SSG60N60P, SSG60N60PUB, SSG60N60PDB,
 SSG60N60S2

PIN ASSIGNMENT (Standard)

Package	Collector	Emitter	Gate
TO-258 (N)	Pin 1	Pin 2	Pin 3
TO-259 (P)	Pin 1	Pin 2	Pin 3
SMD2	Pin 1	Pin 2	Pin 3

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