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

85 AMP / 600 Volts
Fast Power IGBT

Part Number/Ordering Information[1/]

SSG60N60 ___ ___ ___

Screening[2/]
__ = Not Screened
TX = TX Level
TXV = TXV
S = S Level

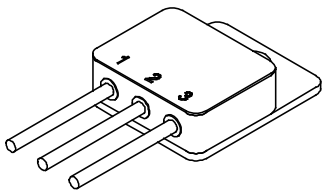
Lead Bend[3/]
__ = Straight
UB = Up Bend
DB = Down Bend

Package
N = TO-258, Isolated
P = TO-259, Isolated
S2 = SMD2

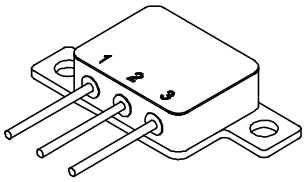
Features:
- 600V IGBT technology
- Positive temperature coefficient for ease of paralleling
- High current switching for motor drives and inverters
- Low saturation voltage at high currents
- Low switching losses
- High short circuit capability
- MOS input, voltage controlled
- Hermetic sealed construction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

Maximum Ratings		Symbol	Value	Units
Collector – Emitter Voltage		V_{CEO}	600	V
Continuous Collector Current **Average Diode Current**	**@ T_C = 25ºC** **@ T_C = 100ºC**	I_C	85 60	A
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	ºC
Total Device Dissipation	**@ T_C = 25ºC**	P_D	350	W
Thermal Resistance Junction to Case	**N, P** **S2**	$R_{\theta JC}$	1.0 0.75	ºC/W

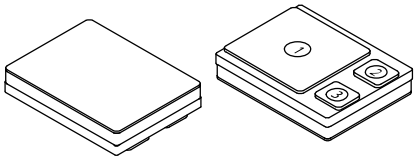
TO-258 (N)



TO-259 (P)



SMD2 (S2)



NOTES: *Pulse Test: Pulse Width = 300µsec, 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°C.

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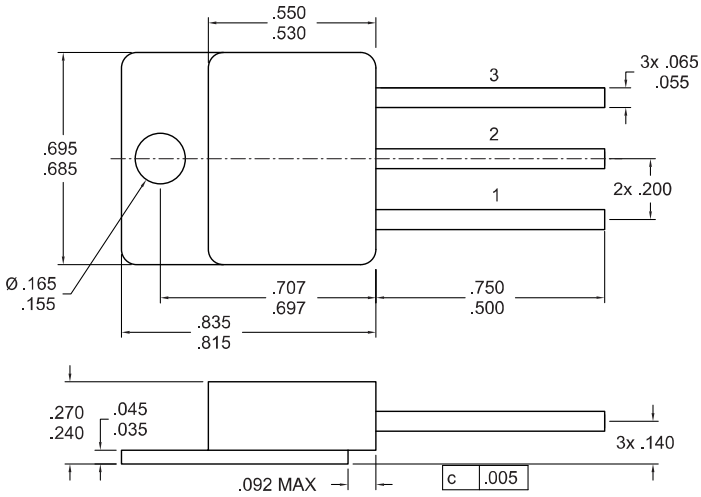
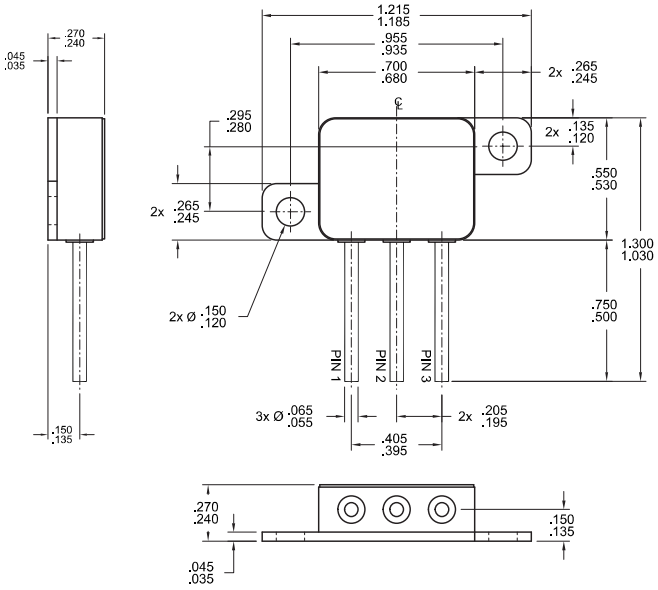
Electrical Characteristics[4/]		Symbol	Min	Typ	Max	Units
Collector – Emitter Breakdown Voltage	V_{GE} = 0V, I_C = 250µA	$V_{(BR)CES}$	600	—	—	**V**
Collector – Emitter Saturation Voltage	V_{GE} = 15V, I_C = 60A	$V_{CE(SAT)}$	—	2.0	2.5	**V**
Gate – Emitter Threshold voltage	V_{GE} = V_{CE}, I_C = 250mA	$V_{GE(th)}$	3	—	6.5	**V**
Zero Gate Voltage Collector Current V_{CE} = 600V, V_{GE} = 0V	T_J = 25°C T_J = 150°C	I_{CES}	— —	0.5 0.35	250 5.0	**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 **Rise Time** **Turn off Delay Time** **Fall Time**	V_{CC} = 400V, I_C = 50A_{DC}, V_{GE} = 15V, t_P = 10µsec, Duty Cycle ≤ 1%	$t_{d(on)}$ t_r $t_{d(off)}$ t_f	— — — —	85 140 300 150	— — — —	**nsec**

TO-258 (N)

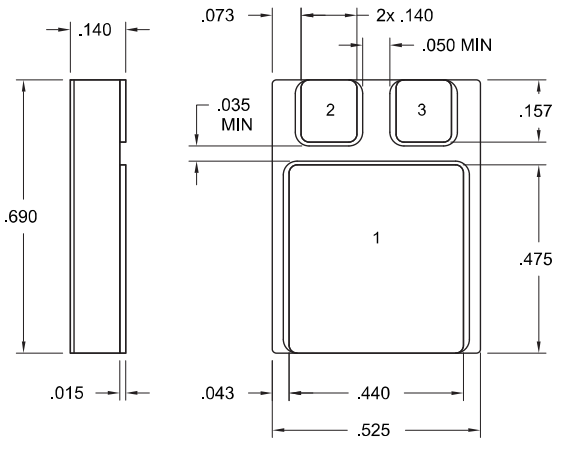


TOLERANCES ARE ±.005 UNLESS OTHERWISE SPECIFIED

TO-259 (P)



SMD2 (S2)



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