SOLID STATE DEVICES, INC.
14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SSG60N60 SERIES

85 AMP 600 VOLTS FAST POWER IGBT

DESIGNER'S DATA SHEET

Part Number /Ordering Information 1/

SSG60N60 N __ TX

Screening 2/: _ = Not Screened
TX = TX Level
TXV = TXV Level
S = Space Level

Lead Bend 3/4/ _ = Straight
UB = Up Bend
DB = Down Bend

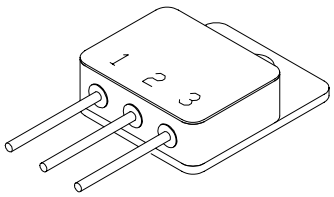
Package: 3/ N = TO-258, Isolated
P = TO-259, Isolated
S2 = SMD2

APPLICATION NOTES:

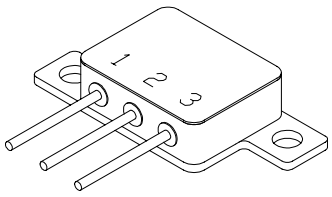
- **600V IGBT Technology**
- **Positive Temperature Coefficient for Ease of Paralleling**
- **High Current Switching for Motor Drives and Inverters**
- **Low Saturation Voltage at High Currents.**
- **Low Switching Losses.**
- **High Short Circuit Capability**
- **MOS Input, Voltage Controlled.**
- **Hermetic Sealed Construction.**
- **TX, TXV, and S-Level Screening Available.**

MAXIMUM RATINGS	SYMBOL	VALUE	UNITS
Collector-Emitter Voltage	V_{CEO}	600	Volts
Continuous Collector Current @ T_C = 25°C **Average Diode Current** @ T_C = 100°C	I_C	85 60	Amps
Peak Collector Current	$I_{C(pk)}$	200	Amps
Gate Emitter Voltage	V_{GE}	±20	Volts
Operating and Storage Temperature	T_J, T_{STG}	-65 to +200	°C
Total Device Dissipation @ T_C = 25°C	P_D	350	W
Thermal Resistance, N, P Junction to Case S2	$R_{\theta JC}$	0.5 0.4	°C/W

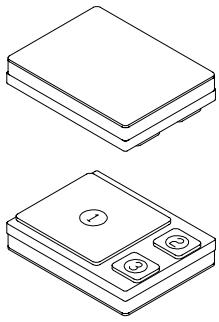
TO-258 (N)



TO-259 (P)



SMD2 (S2)



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

DATA SHEET #: TG0004A

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ELECTRICAL CHARACTERISTICS 5/		SYMBOL	MIN	TYP	MAX	UNITS
Collector - Emitter Breakdown Voltage (V_{GE} = 0V, I_C = 250uA)		$V_{(BR)CES}$	600	-	-	V
Collector - Emitter Saturation Voltage (V_{GE} = 15V, I_C = 60A)		$V_{CE\ (SAT)}$	-	1.67	2.0	V
Gate - Emitter Threshold Voltage (V_{GE} = V_{CE}, I_C = 250mA)		$V_{GE\ (th)}$	3	-	6	V
Zero Gate Voltage Collector Current (V_{CE} = 600V, V_{GE} = 0V)	T_J = 25°C T_J = 150°C	I_{CES}	- -	- -	500 5.0	µA mA
Gate - Emitter Leackage Current (V_{GE} = 30V, V_{CE} = 0V)		I_{GES}	-	-	120	nA
Input Capacitance (V_{CE} = 25V, V_{GE} = 0V, f = 1MHz)		C_{iss}	-	7500	-	pF
Output Capacitance (V_{CE} = 25V, V_{GE} = 0V, f = 1MHz)		C_{oss}	-	720	-	pF
Reverse Transfer Capacitance (V_{CE} = 25V, V_{GE} = 0V, f = 1MHz)		C_{rss}	-	93	-	pF
Turn-On Delay Time	(V_{CC} = 400V, I_C = 50A_{DC}, V_{GE} = 15 / 0V, R_G = --Ω, t_P = 10µsec, Duty Cycle ≤ 1% T_j = 150°C)	$t_{d(on)}$	-	30	-	nsec
Rise Time		t_r	-	49	-	nsec
Turn-Off Delay Time		$t_{d(off)}$	-	130	-	nsec
Fall Time		t_f	-	175	-	nsec

NOTES:

* Pulse Test: Pulse Width = 300us, Duty Cycle = 2%

1/ For Ordering Information, Price, and Availability Contact Factory.

2/ Screening per MIL-PRF-19500.

3/ For Package Outlines Contact Factory.

4/ Up and Down Bend Configurations Available for N and P (TO-258 and TO-259) Packages Only.

5/ All Electrical Characteristics @25°C, Unless Otherwise Specified.

Available Part Numbers:

SSG60N60N SSG60N60NDB SSG60N60NUB

PIN ASSIGNMENT			
PACKAGE	**Collector**	**Emitter**	**Gate**
TO-258	Pin1	Pin 2	Pin 3
TO-259	Pin 1	Pin 2	Pin 3
SMD2	Pin 1	Pin 2	Pin 3