

GSTSS5350JLF

-50V, -3A, PNP Low $V_{CE(SAT)}$ Transistor

Product Description

PNP low $V_{CE(SAT)}$ transistor in a small SOT-23-3L Surface-Mounted Device (SMD) plastic package.

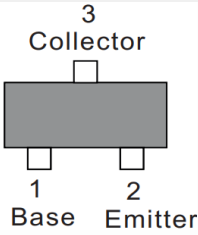
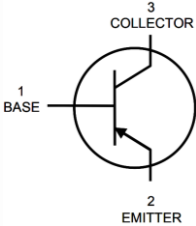
Features

- Collector-Emitter Voltage $V_{CE} = -50V$
- Repetitive Peak Collector $I_{CRM} = -3A$

Mechanical Data

- SOT-23-3L Package
- RoHS Compliant and Halogen Free

Packages & Pin Assignments

SOT-23-3L			Equivalent Circuit		
 Top View					
Pin	Symbol	Description	Pin	Symbol	Description
1	B	Base	3	C	Collector
2	E	Emitter			

Ordering and Marking Information

Ordering Information			
Part Number	Package	Marking Code	Quantity/Reel
GSTSS5350JLF	SOT-23-3L	ESG	3,000 PCS
GSTSS5350 ¹ ² - Product Code: GSTSS5350 - Package Code: ¹ is JL for SOT-23-3L - Green Level: F for RoHS Compliant and Halogen Free			
Marking Information			
ESG - Product Code: ESG			

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CE0}	Collector-Emitter Voltage	-50	V
V _{CB0}	Collector-Base Voltage	-50	V
V _{EB0}	Emitter-Base Voltage	-5	V
I _C	Collector Current	-2	A
I _{CRM}	Repetitive Peak Collector Current ²	-3	
I _{CM}	Peak Collector Current ³	-5	
I _B	Base Current	-0.5	A
P _D	Power Dissipation T _A =25°C ⁵	0.55	W
R _{θJA}	Thermal Resistance, Junction to Ambient ⁵	227	°C/W
R _{θJC}	Thermal Resistance, Junction to Case	100	°C/W
T _J	Junction Temperature Range	150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C

NOTE:

1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. Pulse test: t_p ≤ 100ms; duty cycle ≤ 25%.
3. Pulse test: t_p ≤ 1ms; single pulse
4. Pulse test: t_p ≤ 300μs; duty cycle ≤ 2%.
5. Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad is 6 cm² for collector pin.
6. Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad is 1 cm² for collector pin.
7. Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad is standard footprint for collector pin.

Electrical Characteristics (T_A=25°C unless otherwise specified)

Symbol	Description	Conditions	Min	Max	Unit
BV_{CBO}	Collector-Base Breakdown Voltage	I _C =-100μA, I _E =0	-50		V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I _C =-1mA, I _B =0A	-50		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I _E =-100μA, I _C =0A	-5		V
I_{CBO}	Collector-Base Cut-Off Current	V _{CB} =-50V, I _E =0A		-100	nA
		V _{CB} =-50V, I _E =0A, T _J = 150°C		-50	μA
I_{CEO}	Collector-Emitter Cut-Off Current	V _{CE} =-50V		-10	μA
I_{CES}	Collector-Emitter Cut-Off Current	V _{CE} =-50V, V _{BE} =0V		-100	nA
I_{EBO}	Emitter-Base Cut-Off Current	V _{EB} =-5V, I _C =0A		-100	nA
V_{CE(SAT)}	Collector-Emitter Saturation Voltage ⁴	I _C =-0.5A, I _B =-50mA		-90	mV
		I _C =-1A, I _B =-50mA		-180	
		I _C =-2A, I _B =-100mA		-320	
		I _C =-2A, I _B =-200mA		-270	
		I _C =-3A, I _B =-300mA		-390	
R_{CE(SAT)}	Equivalent On-Resistance ⁴	I _C =-2A, I _B =-200mA		135	mΩ
V_{BE(SAT)}	Base-Emitter Saturation Voltage ⁴	I _C =-2A, I _B =-100mA		-1.1	V
		I _C =-3A, I _B =-300mA		-1.2	
V_{BE(ON)}	Base-Emitter Turn-On Voltage ⁴	V _{CE} =-2V, I _C =-1A		-1.1	V
h_{FE}	DC Current Gain ⁴	V _{CE} =-2V, I _C =-0.1A	200		
		V _{CE} =-2V, I _C =-0.5A	200		
		V _{CE} =-2V, I _C =-1A	200	450	
		V _{CE} =-2V, I _C =-2A	130		
		V _{CE} =-2V, I _C =-3A	80		
f_T	Transition Frequency	V _{CE} =-5V, I _C =-100mA f= 100MHz	100		MHz
C_c	Collector Capacitance	V _{CB} =-10V, I _E =I _C =0A, f=1MHz		35	pF

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

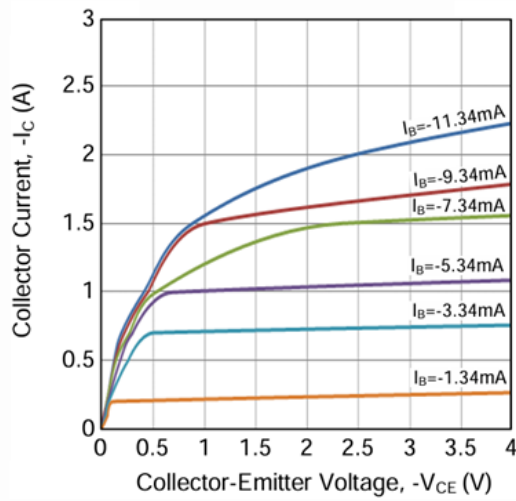


Figure 1. I_c vs. V_{ce}

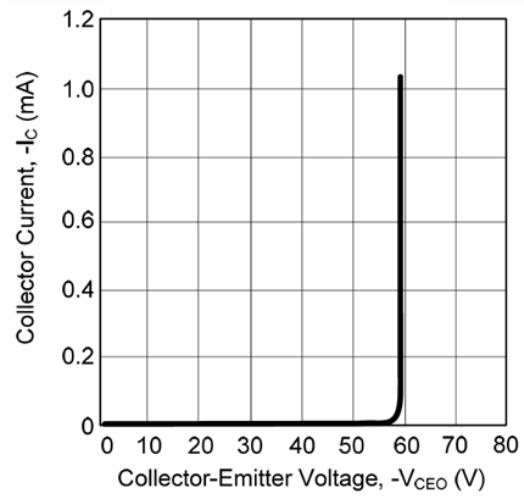


Figure 2. BV_{ceo} Characteristics

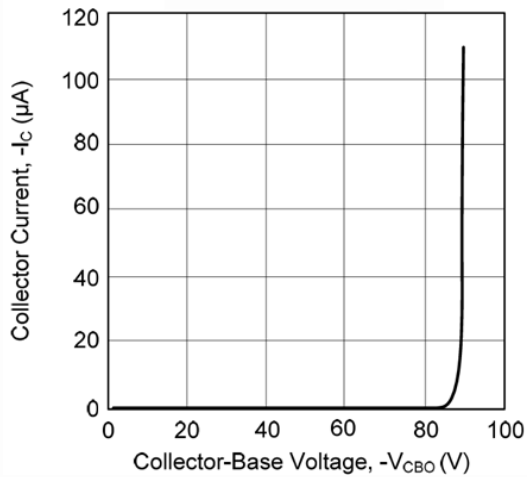


Figure 3. BV_{cbo} Characteristics

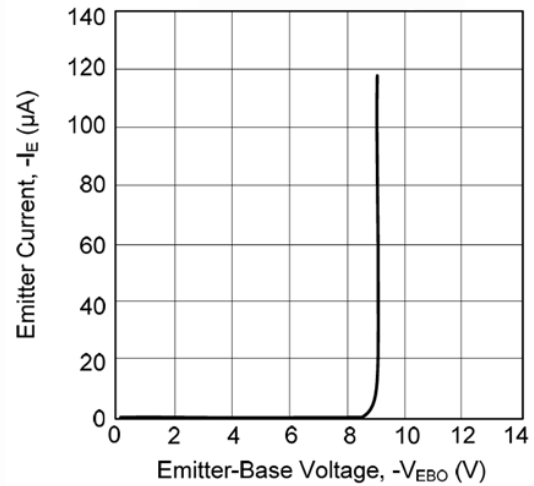


Figure 4. BV_{ebo} Characteristics

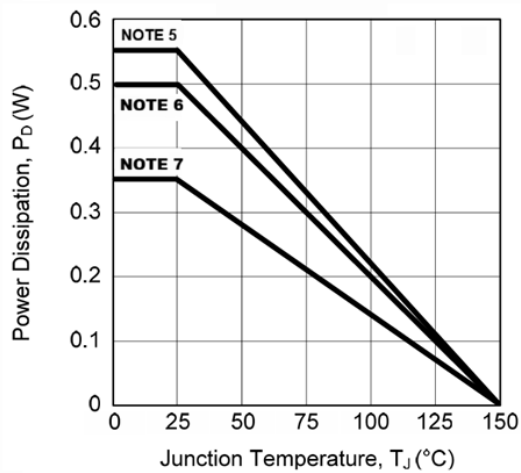


Figure 5. P_D vs. T_J

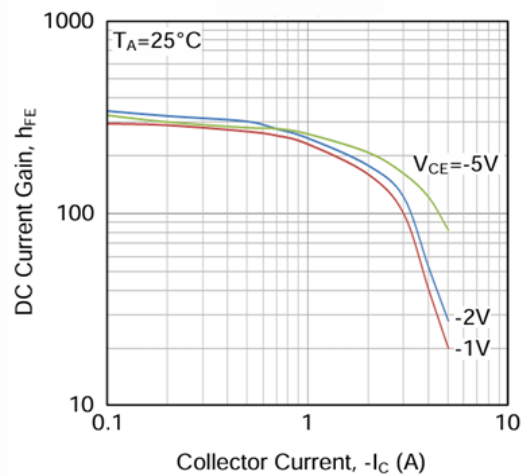
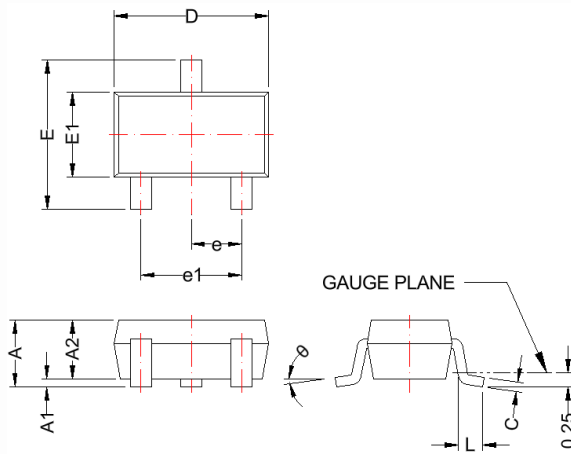


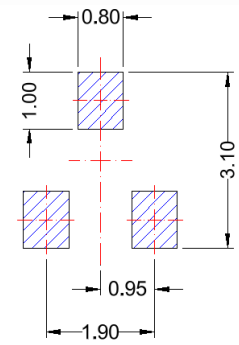
Figure 6. DC Current Gain vs. Collector Current

SOT-23-3L

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.90	1.45	0.035	0.057
A1	0.00	0.15	0.000	0.006
A2	0.90	1.30	0.035	0.051
b	0.30	0.55	0.012	0.022
c	0.08	0.26	0.003	0.010
D	2.70	3.10	0.106	0.122
E	2.20	3.00	0.087	0.118
E1	1.20	1.80	0.047	0.071
e	0.95 BSC		0.037 BSC	
e1	1.90 BSC		0.075 BSC	
L	0.30	0.60	0.012	0.024
θ	0°	8°	0°	8°

NOTE:

Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

NOTICE

- Globaltech Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all Globaltech Semiconductor products described or contained herein. Globaltech Semiconductor products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Globaltech Semiconductor makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- Information furnished is believed to be accurate and reliable. However Globaltech Semiconductor assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties, which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Globaltech Semiconductor. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information without express written approval of Globaltech Semiconductor.

CONTACT US

GS Headquarter	
	4F, NO.43-1, Lane 11, Sec. 6, Minquan E. Rd Neihu District, Taipei City 114761, Taiwan (R.O.C).
	886-2-2657-9980
	886-2-2657-3630
	sales_twn@gs-power.com

RD Division	
	824 Bolton Drive Milpitas. CA. 95035
	1-408-457-0587