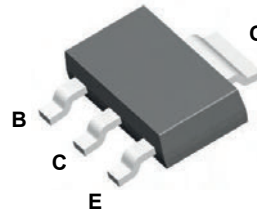


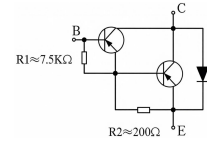
GSBSP62 PNP Darlington Transistor

Features

- Low profile package
- Ideal for automated placement
- Low saturation voltages
- High voltage capability
- High stability and high reliability



SOT-223



Schematic Diagram

Applications

- Amplifying signal
- Electronic switch
- Oscillating circuit
- Variable resistance
- Lighting applications

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-90	V
Collector-Emitter Voltage	V_{CES}	-80	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current Continuous	I_C	-1	A
Peak Pulse Current	I_{CM}	-2	A
Base Current	I_B	-100	mA
Collector Power Dissipation ¹	P_C	1.25	W
Thermal Resistance from Junction to Ambient ¹	$R_{th(j-a)}$	98	°C/W
Thermal Resistance from Junction to Solder Point	$R_{th(j-sp)}$	17	°C/W
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics (T=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	$I_C = -100\mu A, I_E = 0$	-90	-	-	V
Collector-Emitter Breakdown Voltage	V_{CES}	$I_C = -2mA, V_{BE} = 0V$	-80	-	-	V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = -100\mu A, I_C = 0$	-5	-	-	V
Collector-Emitter Cut-Off Current	I_{CES}	$V_{CE} = -80V, V_{BE} = 0V$	-	-	-50	nA
Emitter-Base Cut-Off Current	I_{EBO}	$V_{EB} = -4V, I_C = 0$	-	-	-50	nA
DC Current Gain ²	h_{FE}	$V_{CE} = -10V, I_C = -150mA$	1000	-	-	-
		$V_{CE} = -10V, I_C = -500mA$	2000	-	-	-
Turn-On Time	t_{on}	$I_C = -500mA, I_{B(on)} = -0.5mA, I_{B(off)} = 0.5mA$	-	400	-	nS
Turn-Off Time	t_{off}		-	1500	-	nS
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -0.5mA, T_J = 150^\circ C$	-	-	-1.3	V
		$I_C = -500mA, I_B = -0.5mA, T_J = 25^\circ C$	-	-	-1.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -500mA, I_B = -0.5mA$	-	-	-1.9	V
Transition Frequency	f_T	$V_{CE} = -5V, I_C = -500mA, f = 100MHz$	-	200	-	MHz

Notes:

1. Device mounted on an FR4 printed-circuit board (PCB), single-sided copper, tin-plated, mounting pad for collector 1cm²
2. Pulse test: $t_p \leq 300\mu s, \delta \leq 0.02$.

Typical Electrical Characteristic Curves

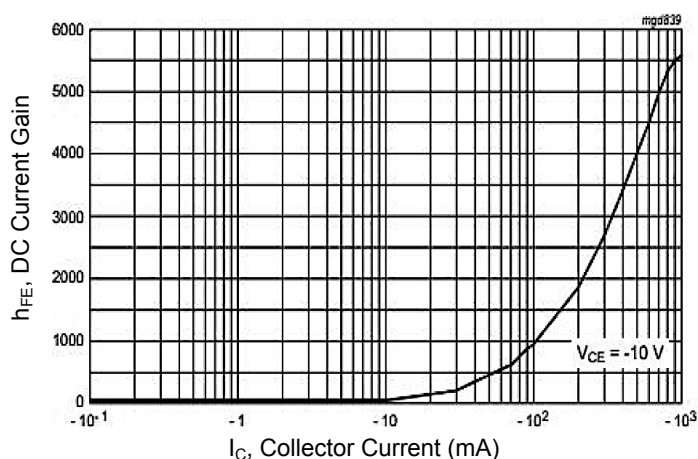
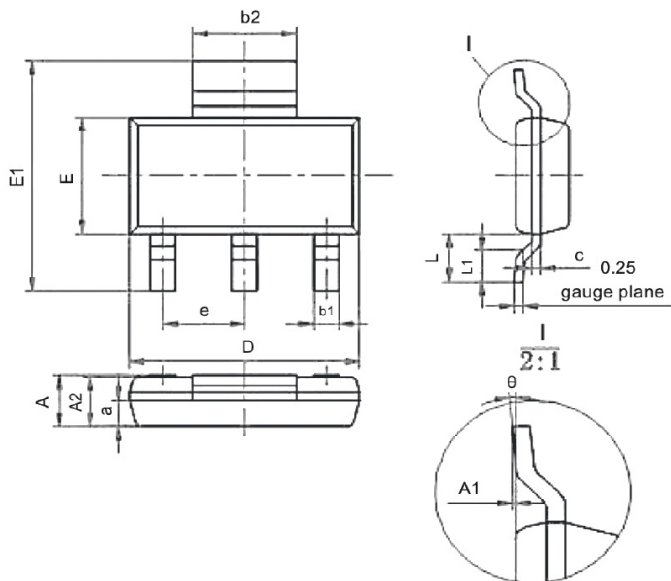


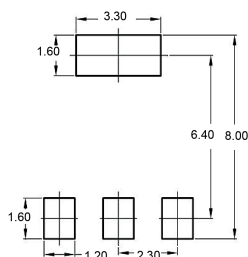
Figure 1. DC Current Gain vs. Collector Current

Package Outline Dimensions (SOT-223)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.75	0.055	0.069
A1	0.00	0.15	0.000	0.006
A2	1.40	1.65	0.055	0.065
a	0.800 REF		0.031 REF	
D	6.30	6.70	0.248	0.264
E	3.30	3.70	0.130	0.146
E1	6.80	7.10	0.268	0.280
e	2.20	2.40	0.087	0.094
b1	0.65	0.80	0.026	0.031
b2	2.75	3.15	0.108	0.124
c	0.18	0.30	0.007	0.012
L	1.725 REF		0.068 REF	
L1	0.80	1.20	0.031	0.047
θ	0°	10°	0°	10°

Recommended Pad Layout



Unit: mm

Order Information

Device	Package	Marking	Packaging	SPQ
GSBSP62	SOT-223	BSP62	Tape & Reel	4,000 Pcs / Reel