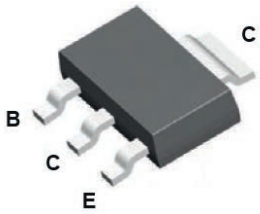
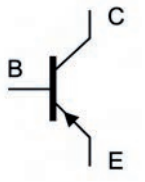
GSBCP69
PNP Transistor

Features

- High collector current
- Low collector-emitter saturation voltage
- High current gain



SOT-223



Schematic Diagram

Mechanical Data

- Case: SOT-223
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, method 208

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-25	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current (Continuous)	I_C	-1	A
Collector Current (Peak)	I_{CM}	-2	A
Base Current (Continuous)	I_B	-0.1	A
Base Current (Peak)	I_{BM}	-0.2	A
Power Dissipation (T_A=25°C)	P_D	1.5	W
Thermal Resistance Junction-to-Air[1]	$R_{\theta JA}$	80	°C/W
Thermal Resistance Junction-to-Case[1]	$R_{\theta JC}$	40	°C/W
Thermal Resistance Junction-to-Lead[1]	$R_{\theta JL}$	25	°C/W
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

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

Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	I_C=-10μA, I_E=0	-25	-	-	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=-30mA, I_B=0	-20	-	-	V
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	I_E=-10μA, I_C=0	-5	-	-	V
Collector Cut-off Current		I_{CBO}	V_{CB}=-25V, I_E=0	-	-	-100	nA
DC Current Gain		h_{FE}	V_{CE}=-10V, I_C=-5mA	50	-	-	-
			V_{CE}=-1V, I_C=-1A	60	-	-	-
DC Current Gain	GSBCP69		V_{CE}=-1V, I_C=-500mA	85	-	375	-
	GSBCP69-10			85	-	160	-
	GSBCP69-16			100	-	250	-
	GSBCP69-25			160	-	375	-
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=-1A, I_B=-100mA	-	-	-0.5	V
Base-Emitter Voltage		$V_{BE(on)}$	I_C=-5mA, V_{CE}=-10V	-	-0.6	-	V
			I_C=-1A, V_{CE}=-1V	-	-	-1	V
Transition Frequency		f_T	V_{CE}=-5V, I_C=-100mA, f=100MHz	-	100	-	MHz

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

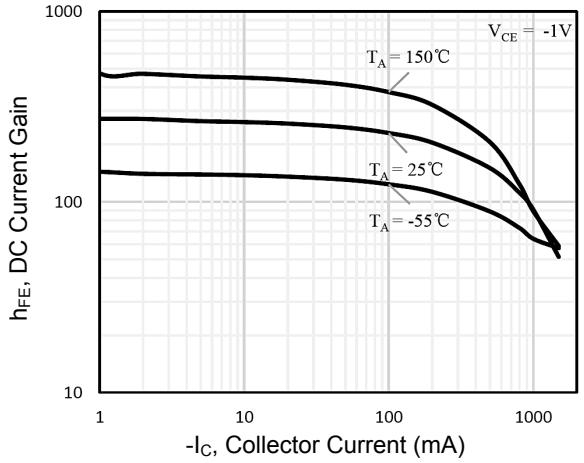


Figure 1. DC Current Gain vs. Collector Current

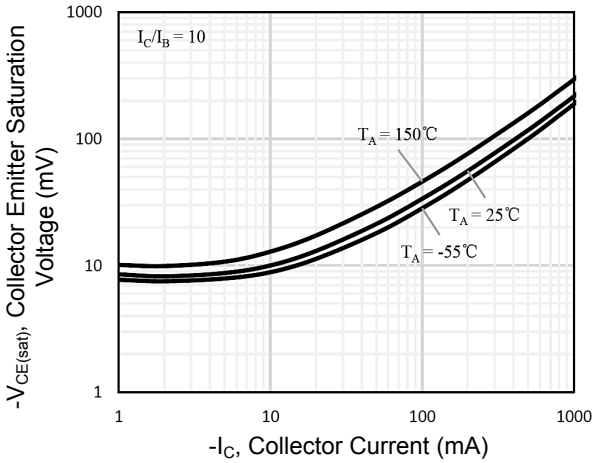


Figure 2. Collector Emitter Saturation Voltage vs. Collector Current

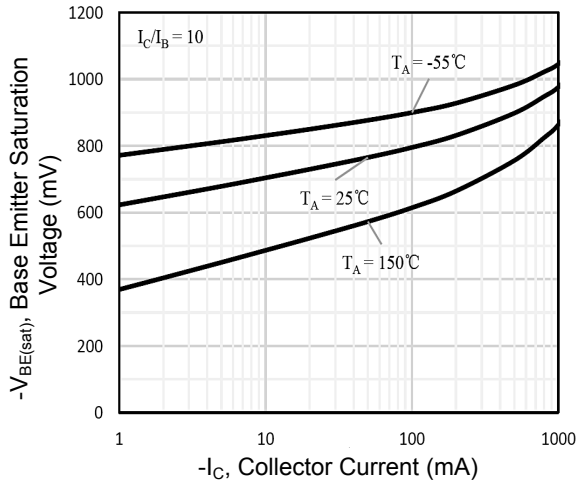


Figure 3. Base Emitter Saturation Voltage vs. Collector Current

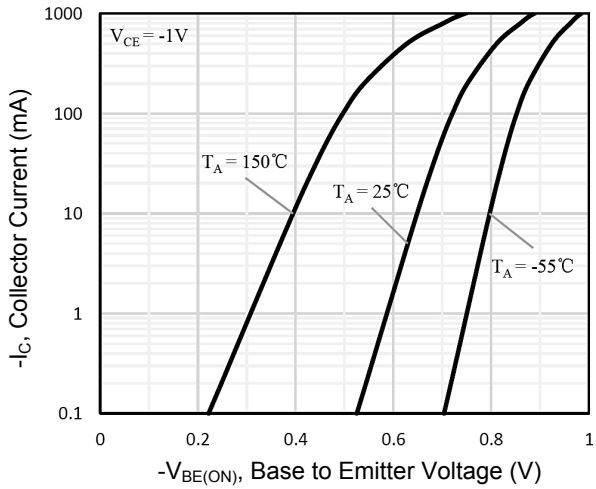


Figure 4. Collector Current vs. Base to Emitter Voltage

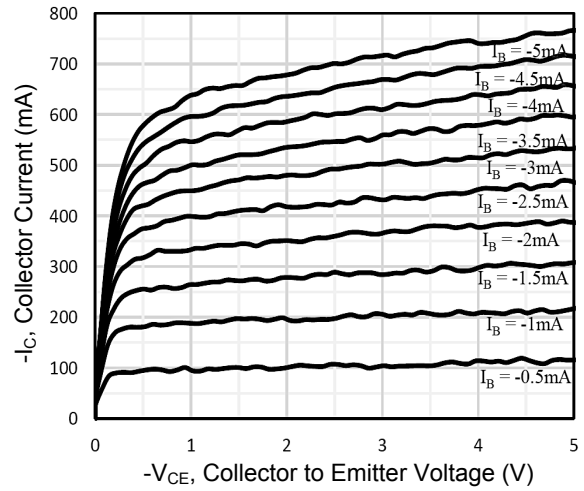


Figure 5. Collector Current vs. Collector to Emitter Voltage

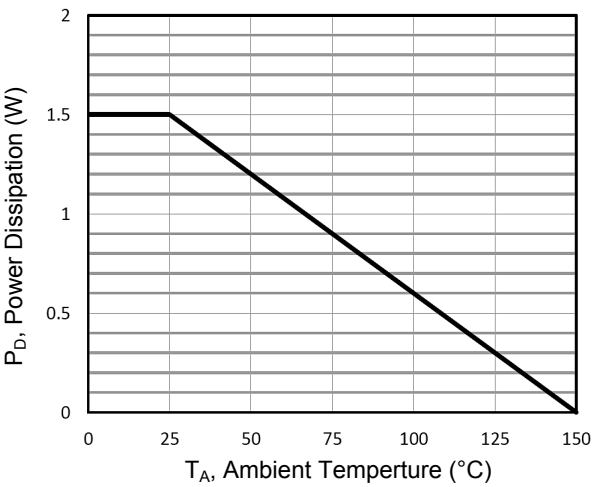
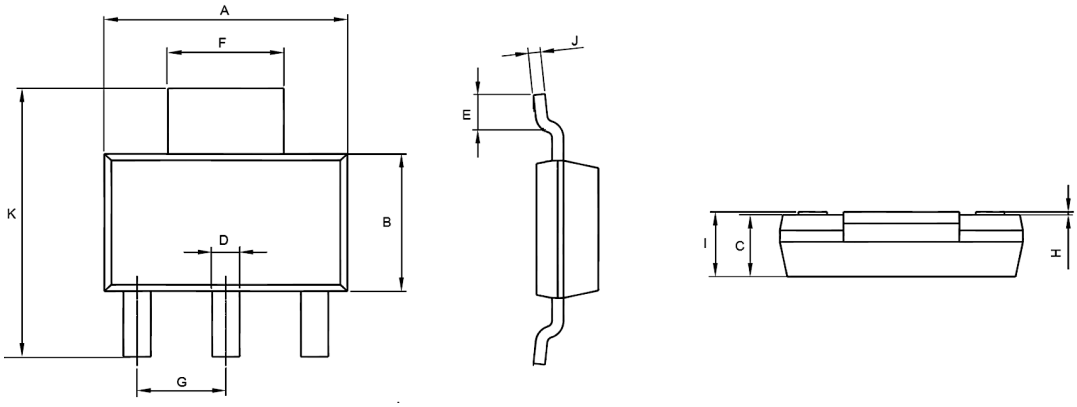


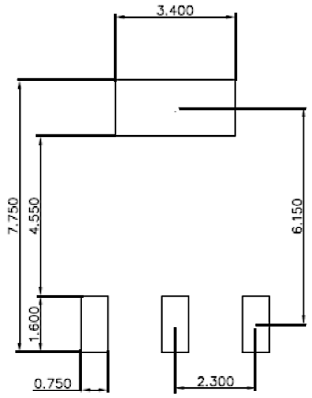
Figure 6. Steady State Power Derating

Package Outline Dimensions (SOT-223)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	6.10	6.50	0.240	0.256
B	3.30	3.70	0.130	0.146
C	1.50	1.70	0.059	0.067
D	0.66	0.82	0.026	0.032
E	0.90	1.15	0.035	0.045
F	2.90	3.10	0.114	0.122
G	2.20	2.40	0.087	0.094
H	0.02	0.10	0.001	0.004
I	1.52	1.80	0.060	0.071
J	0.20	0.40	0.008	0.016
K	6.70	7.30	0.264	0.287

Recommended Pad Layout



Unit: mm

Ordering Information

Device	Package	Marking	Packaging	SPQ
GSBCP69	SOT-223	BCP69	Tape & Reel	4,000 Pcs / Reel
GSBCP69-10	SOT-223	BCP69-10	Tape & Reel	4,000 Pcs / Reel
GSBCP69-16	SOT-223	BCP69-16	Tape & Reel	4,000 Pcs / Reel
GSBCP69-25	SOT-223	BCP69-25	Tape & Reel	4,000 Pcs / Reel