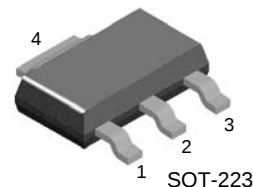


BCP69

PNP General Purpose Amplifier

- This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 1.0A.
- Sourced from Process 77.



1. Base 2. Collector 3. Emitter

Absolute Maximum Ratings*

$T_a=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	-20	V
V_{CBO}	Collector-Base Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current - Continuous	-1.5	A
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range	- 55 ~ +150	$^{\circ}\text{C}$

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

1) These ratings are based on a maximum junction temperature of 150°C .

2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics*

$T_a=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Total Device Dissipation Derate above 25°C	1.0 8.0	W $\text{mW}/^{\circ}\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	$^{\circ}\text{C}/\text{W}$

* Device mounted on FR-4 PCB $36\text{mm} \times 18\text{mm} \times 1.5\text{mm}$; mounting pad for the collector lead min. 6cm^2

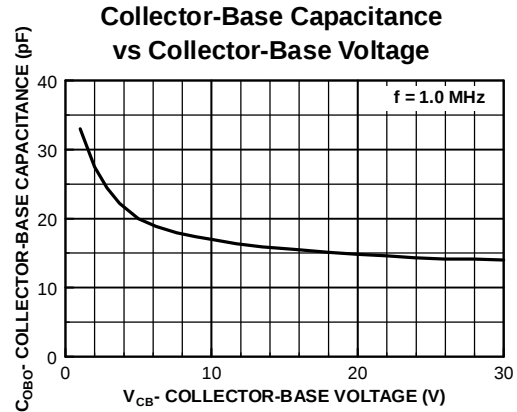
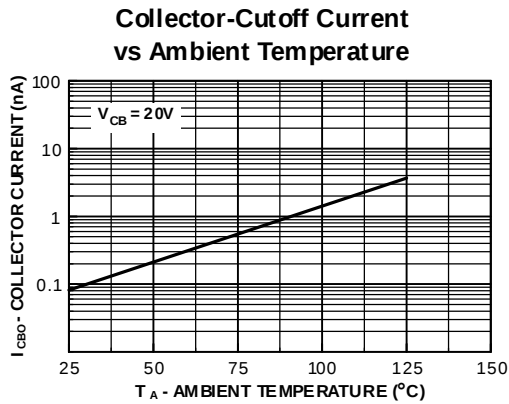
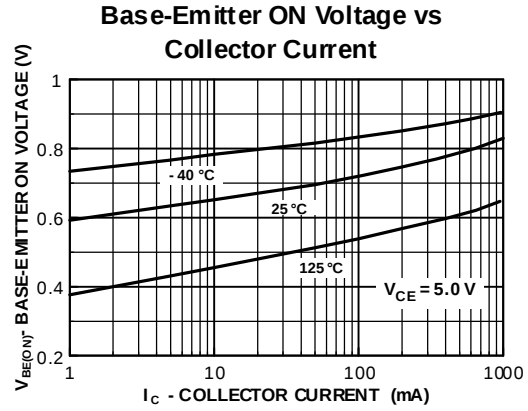
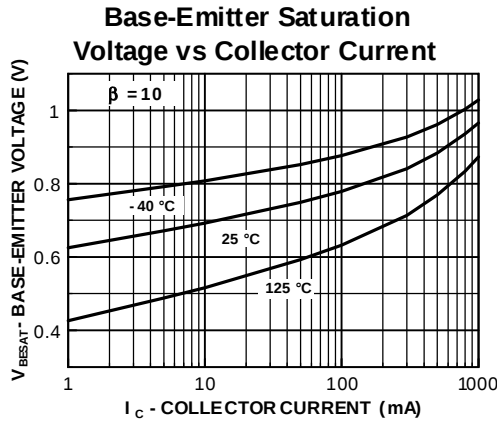
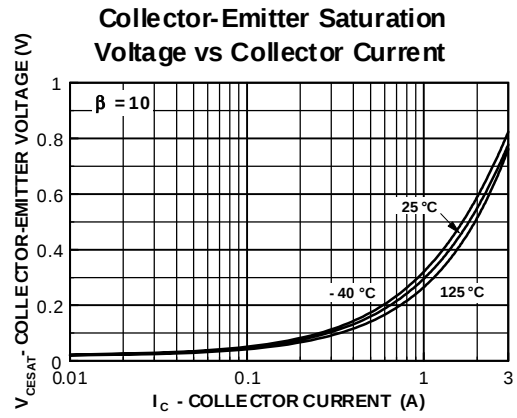
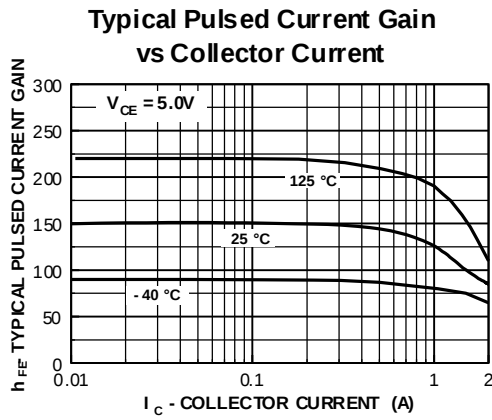
Electrical Characteristics*

$T_a = 25^{\circ}\text{C}$ unless otherwise noted

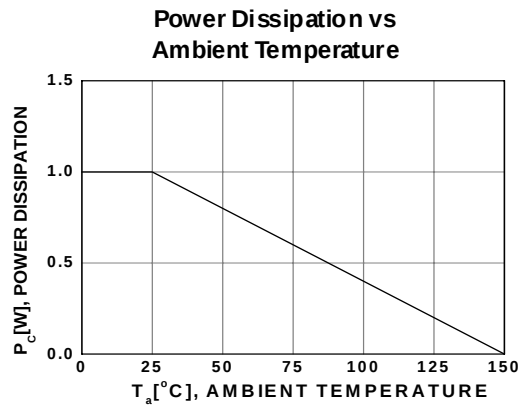
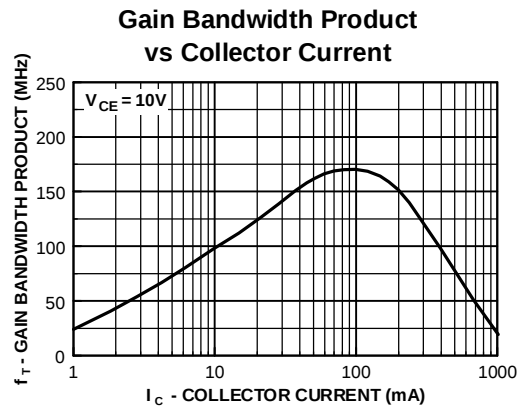
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}$, $I_B = 0$	-20			V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = -1.0\text{mA}$, $I_E = 0$	-30			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}$, $I_C = 0$	-5.0			V
I_{CBO}	Collector-Base Cutoff Current	$V_{CB} = -25\text{V}$, $I_E = 0$ $V_{CB} = -25\text{V}$, $I_E = 0$, $T_J = 150^{\circ}\text{C}$			-100 -10	nA uA
I_{EBO}	Emitter-Base Cutoff Current	$V_{EB} = -5.0\text{V}$, $I_C = 0$			-100	nA
h_{FE}	DC Current Gain	$I_C = -5\text{mA}$, $V_{CE} = -1.0\text{V}$ $I_C = -500\text{mA}$, $V_{CE} = -1.0\text{V}$ $I_C = -1.0\text{A}$, $V_{CE} = -1.0\text{V}$	50 85 60		375	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1.0\text{A}$, $I_B = -100\text{mA}$			-0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -1.0\text{A}$, $V_{CE} = -1.0\text{V}$			-1.0	V
C_{cb}	Collector-Base Capacitance	$V_{CB} = -10\text{V}$, $I_E = 0$, $f = 1.0\text{MHz}$			30	pF
h_{fe}	Small-Signal Current Gain	$I_C = -50\text{mA}$, $V_{CE} = -10\text{V}$, $f = 20\text{MHz}$	2.5			

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Typical Performance Characteristics

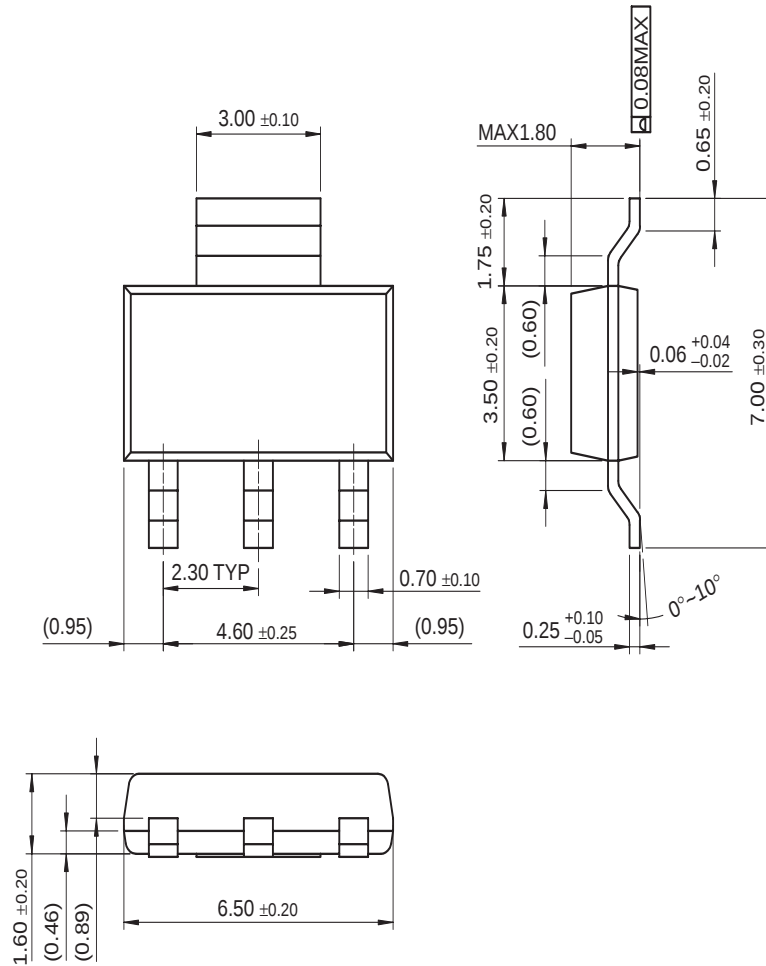


Typical Performance Characteristics



Mechanical Dimensions

SOT-223



Dimensions in Millimeters

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