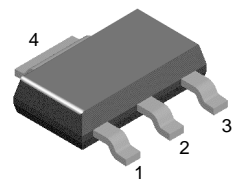


## BCP69

### 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.



SOT-223

1. Base 2.4. Collector 3. Emitter

### Absolute Maximum Ratings \* $T_C=25^\circ\text{C}$ 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
$T_J, T_{stg}$	Junction and Storage Temperature	-55 ~ +150	$^\circ\text{C}$

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

#### NOTES:

- These ratings are based on a maximum junction temperature of 150 degrees C.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
<b>Off Characteristics</b>					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage *	$I_C = -10\text{mA}, I_B = 0$	-20		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -1.0\text{mA}, I_E = 0$	-30		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5.0		V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -25\text{V}, I_E = 0$		-10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5.0\text{V}, I_C = 0$		-10	$\mu\text{A}$
<b>On Characteristics *</b>					
$h_{FE}$	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
<b>Small Signal Characteristics</b>					
$h_{fe}$	Small-Signal Current Gain	$I_C = -50\text{mA}, V_{CE} = -10\text{V}, f = 20\text{MHz}$	2.5		
$C_{cb}$	Collector-Base Capacitance	$V_{CB} = -10\text{V}, I_E = 0, f = 1.0\text{MHz}$		30	pF

\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 1.0\%$

### Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

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

\* 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.  $6\text{cm}^2$