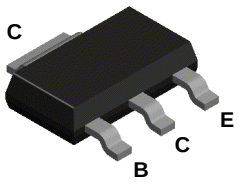
FAIRCHILD
SEMICONDUCTOR TM

BCP53



SOT-223

PNP General Purpose Amplifier

This device is designed for general purpose medium power amplifiers and switching circuits requiring collector currents to 1.0 A. Sourced from Process 78. See BCP52 for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	80	V
V_{CBO}	Collector-Base Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current - Continuous	1.2	A
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°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 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		BCP53	
P_D	Total Device Dissipation Derate above 25°C	1.5 12	W mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	83.3	°C/W

PNP General Purpose Amplifier
(continued)

Electrical Characteristics
TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C = 10 mA, I_B = 0	80		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = 100 µA, I_E = 0	100		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = 10 µA, I_C = 0	5.0		V
I_{CBO}	Collector-Cutoff Current	V_{CB} = 30 V, I_E = 0 V_{CB} = 30 V, I_E = 0, T_A = 125°C		100 10	nA µA
I_{EBO}	Emitter-Cutoff Current	V_{EB} = 5.0 V, I_C = 0		10	µA
ON CHARACTERISTICS					
h_{FE}	DC Current Gain	I_C = 5.0 mA, V_{CE} = 2.0 V I_C = 150 mA, V_{CE} = 2.0 V I_C = 500 mA, V_{CE} = 2.0 V	25 40 25	250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 500 mA, I_B = 50 mA		0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C = 500 mA, V_{CE} = 2.0 V		1.0	V

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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Definition of Terms

Datasheet Identification	Product Status	Definition
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