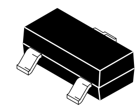
PNP Darlington Transistor

BCV26

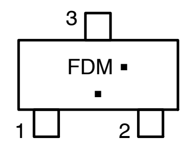
Description

This device is designed for applications requiring extremely high current gain at collector currents to 800 mA. Sourced from Process 61.



SOT−23
CASE 318

MARKING DIAGRAM



1. Base
2. Emitter
3. Collector

FD = Specific Device Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping
BCV26	SOT−23 (Pb−Free, Halide Free)	3,000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

ABSOLUTE MAXIMUM RATINGS

(T_A = 25°C unless otherwise noted.) (Notes 1, 2, 3)

Symbol	Parameter	Value	Unit
V_{CEO}	Collector−Emitter Voltage	30	V
V_{CBO}	Collector−Base Voltage	40	V
V_{EBO}	Emitter−Base Voltage	10	V
I_C	Collector Current − Continuous	1.2	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	−55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. These ratings are based on a maximum junction temperature of 150°C.
2. These are steady−state limits. **onsemi** should be consulted on applications involving pulsed or low−duty−cycle operations.
3. All voltages (V) and currents (A) are negative polarity for PNP transistors.

THERMAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted.) (Note 4)

Symbol	Parameter	Max	Unit
P_D	Total Device Dissipation	350	mW
	Derate Above 25°C	2.8	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient	357	°C/W

4. Device mounted on FR−4 PCB 40 mm x 40 mm x 1.5 mm.

October, 2023 − Rev. 2

Publication Order Number:
BCV26/D

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
$V_{(BR)CEO}$	Collector−Emitter Breakdown Voltage	I_C = 10 mA, I_B = 0	30	–	–	V
$V_{(BR)CBO}$	Collector−Base Breakdown Voltage	I_C = 10 μA, I_E = 0	40	–	–	V
$V_{(BR)EBO}$	Emitter−Base Breakdown Voltage	I_E = 100 nA, I_C = 0	10	–	–	V
I_{CBO}	Collector Cut−Off Current	V_{CB} = 30 V, I_E = 0	–	–	0.1	μA
I_{EBO}	Emitter Cut−Off Current	V_{EB} = 10 V, I_C = 0	–	–	0.1	μA
ON CHARACTERISTICS						
h_{FE}	DC Current Gain	I_C = 1.0 mA, V_{CE} = 5.0 V	4000	–	–	
		I_C = 10 mA, V_{CE} = 5.0 V	10000	–	–	
		I_C = 100 mA, V_{CE} = 5.0 V	20000	–	–	
$V_{CE(sat)}$	Collector−Emitter Saturation Voltage	I_C = 100 mA, I_B = 0.1 mA	–	–	1.0	V
$V_{BE(sat)}$	Base−Emitter Saturation Voltage	I_C = 100 mA, I_B = 0.1 mA	–	–	1.5	V
SMALL SIGNAL CHARACTERISTICS						
f_T	Current Gain − Bandwidth Product	I_C = 30 mA, V_{CE} = 5.0 V, f = 100 MHz	–	220	–	MHz
C_c	Collector Capacitance	V_{CB} = 30 V, I_E = 0, f = 1.0 MHz	–	3.5	–	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

NOTE: All voltages (V) and currents (A) are negative polarity for PNP transistors.

TYPICAL CHARACTERISTICS

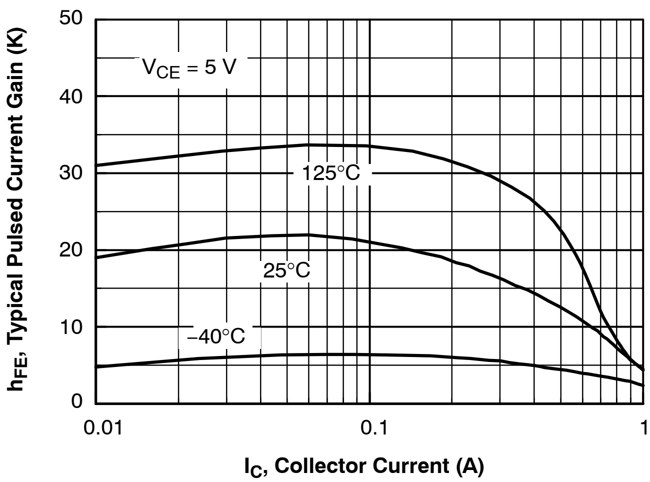


Figure 1. Typical Pulsed Current Gain vs. Collector Current

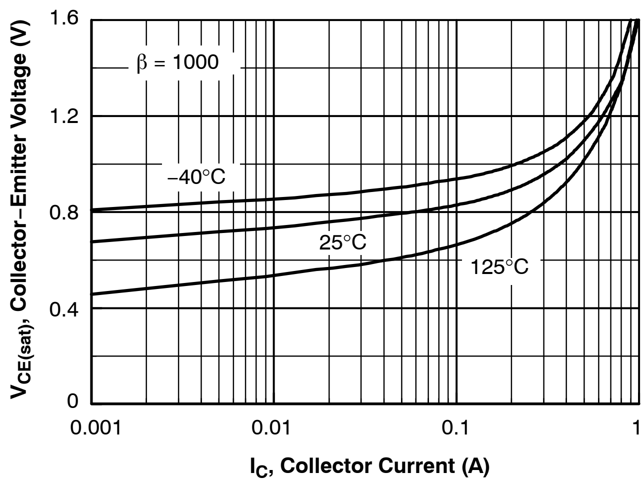


Figure 2. Collector−Emitter Saturation Voltage vs. Collector Current

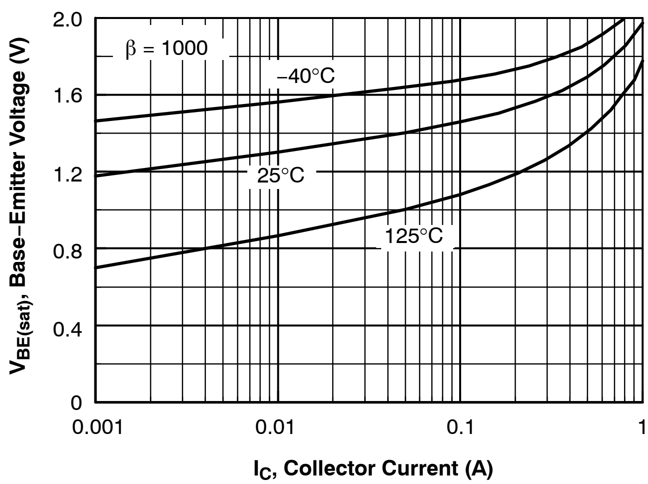


Figure 3. Base−Emitter Saturation Voltage vs. Collector Current

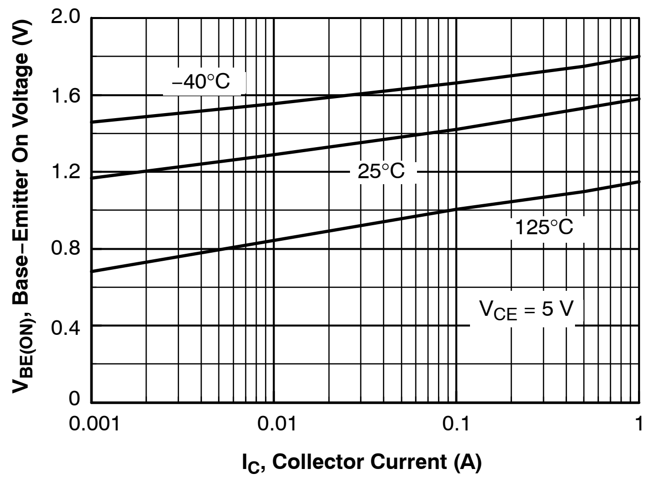


Figure 4. Base Emitter On Voltage vs. Collector Current

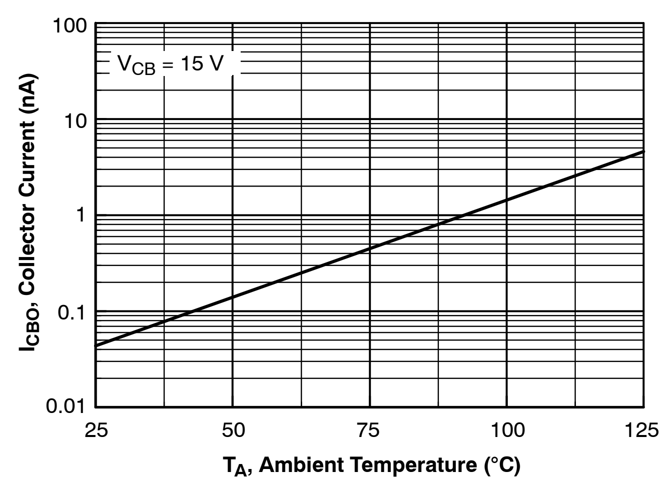


Figure 5. Collector Cut−Off Current vs. Ambient Temperature

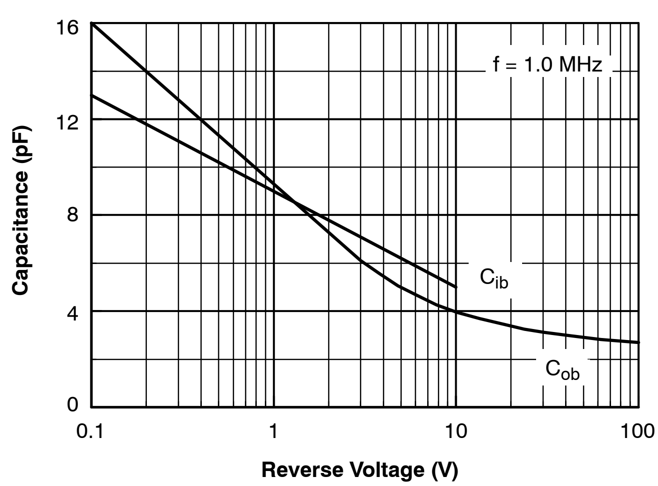


Figure 6. Input and Output Capacitance vs. Reverse Bias Voltage

TYPICAL CHARACTERISTICS (Continued)

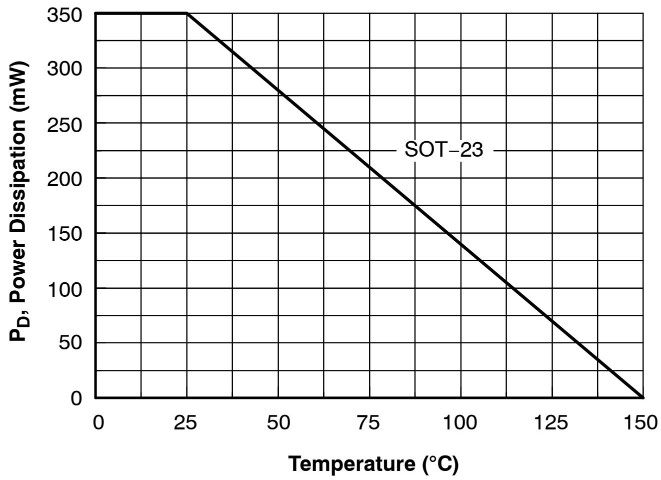


Figure 7. Power Dissipation vs. Ambient Temperature

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:
Technical Library: www.onsemi.com/design/resources/technical−documentation
onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support
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