

BCV47

**SURFACE MOUNT SILICON
NPN DARLINGTON TRANSISTOR**



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BCV47 is a silicon NPN Darlington transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

MARKING CODE: FG

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	10	V
Continuous Collector Current	I_C	500	mA
Peak Collector Current	I_{CM}	800	mA
Continuous Base Current	I_B	100	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

SYMBOL

V_{CBO}	80
V_{CEO}	60
V_{EBO}	10
I_C	500
I_{CM}	800
I_B	100
P_D	350
T_J, T_{stg}	-65 to +150
θ_{JA}	357

UNITS

V
V
V
mA
mA
mA
mW
$^\circ\text{C}$
$^\circ\text{C/W}$

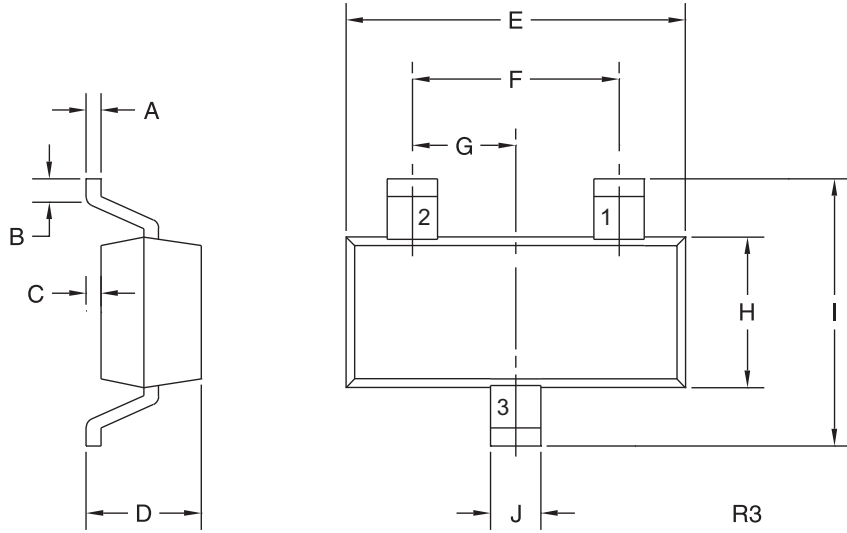
ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$			100	nA
I_{EBO}	$V_{BE}=10\text{V}$			100	nA
BV_{CEO}	$I_C=10\text{mA}$	60			V
BV_{CBO}	$I_C=10\mu\text{A}$	80			V
BV_{EBO}	$I_E=100\text{nA}$	10			V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$			1.0	V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$			1.5	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	2,000			
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	4,000			
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	10,000			
f_T	$V_{CE}=5.0\text{V}, I_C=30\text{mA}, f=100\text{MHz}$		220		MHz

BCV47
SURFACE MOUNT SILICON
NPN DARLINGTON TRANSISTOR



SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Base
- 2) Emitter
- 3) Collector

MARKING CODE: FG

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

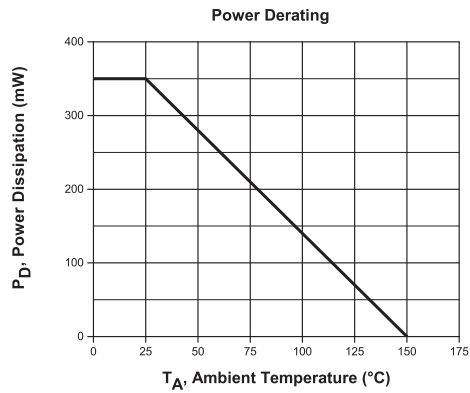
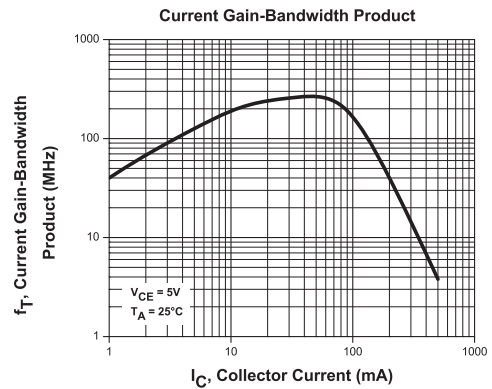
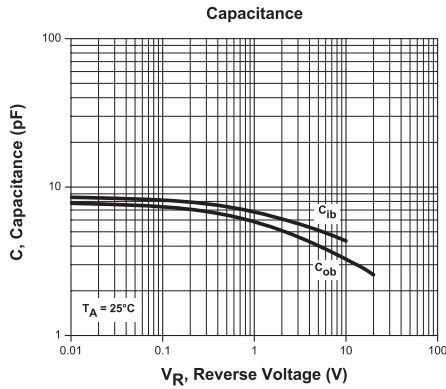
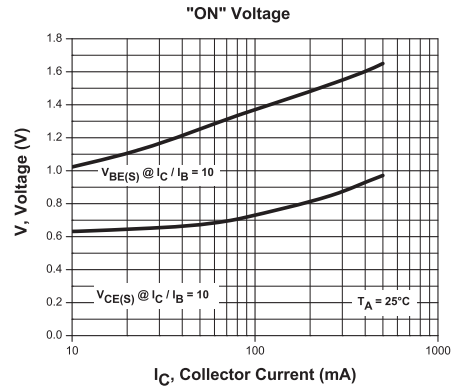
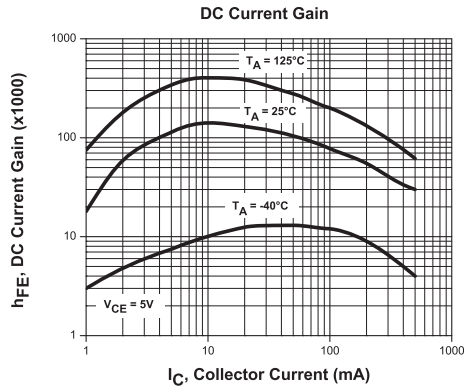
SOT-23 (REV: R3)

R3 (23-April 2015)

BCV47
SURFACE MOUNT SILICON
NPN DARLINGTON TRANSISTOR



TYPICAL ELECTRICAL CHARACTERISTICS



R3 (23-April 2015)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centrasemi.com

Worldwide Field Representatives:
www.centrasemi.com/wwreps

Worldwide Distributors:
www.centrasemi.com/wwdistributors

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centrasemi.com/terms