

**BCV47**

**SURFACE MOUNT SILICON  
NPN DARLINGTON TRANSISTOR**



[www.centrasemi.com](http://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	$\theta_{JA}$	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
$\theta_{JA}$	357

**UNITS**

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

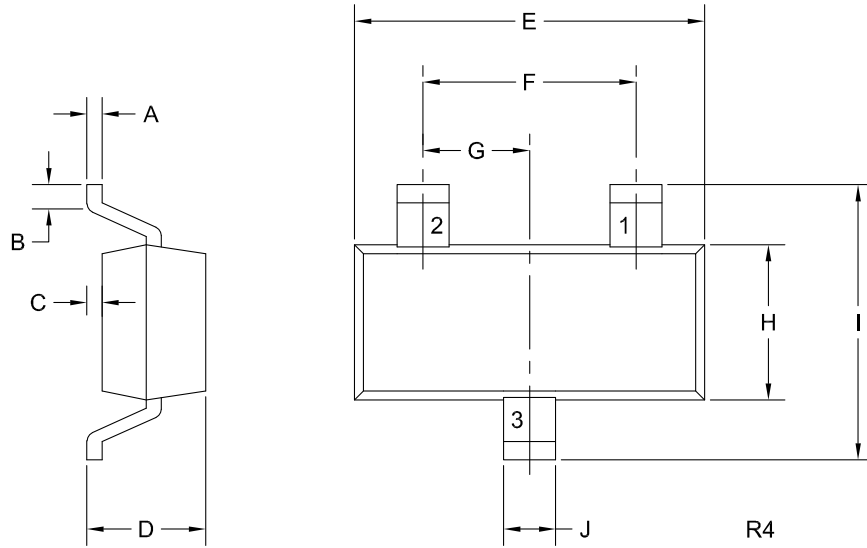
**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

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

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**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODE: FG**

<b>DIMENSIONS</b>				
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	0.044	0.89	1.12
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	0.104	2.10	2.64
J	0.014	0.020	0.35	0.50

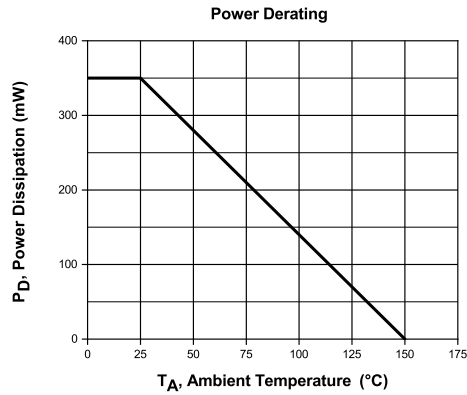
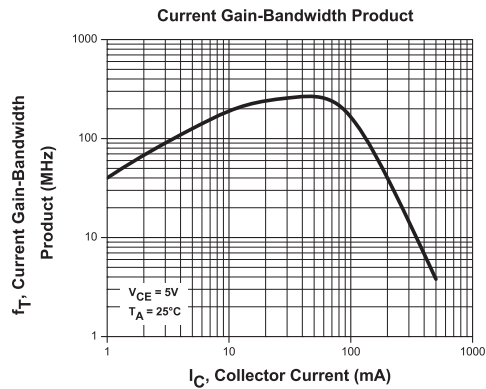
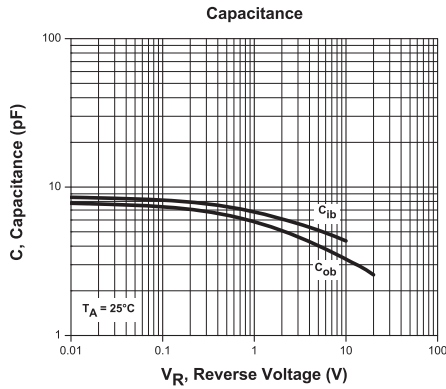
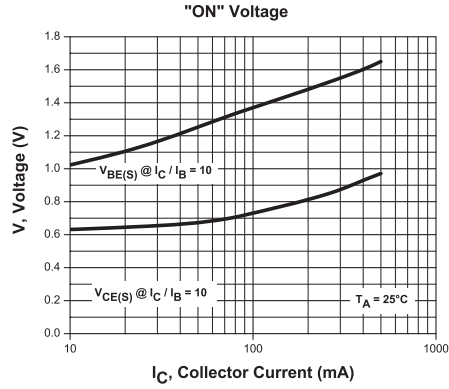
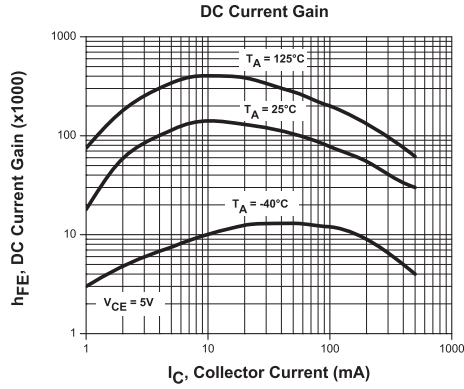
SOT-23 (REV: R4)

R4 (21-October 2021)

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**TYPICAL ELECTRICAL CHARACTERISTICS**



R4 (21-October 2021)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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).

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### CONTACT US

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