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BCV47

**SURFACE MOUNT SILICON
NPN DARLINGTON TRANSISTOR**



SOT-23 CASE



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
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

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)

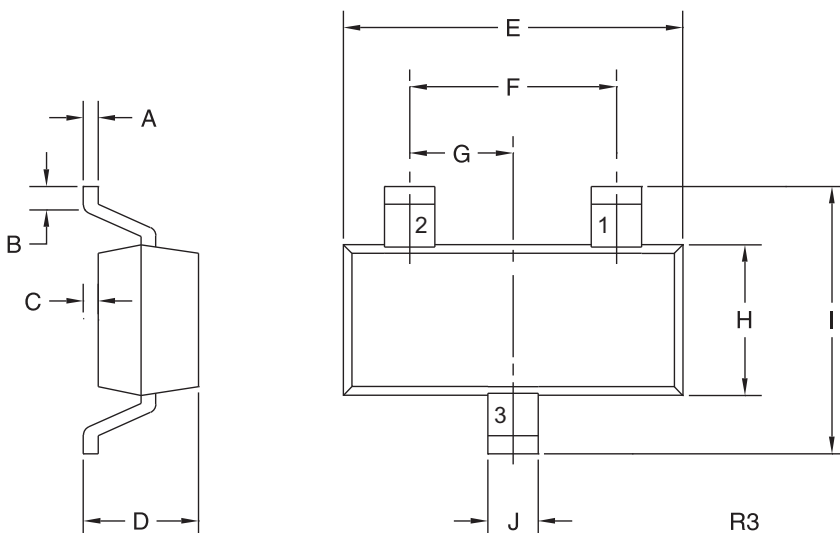
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$			100	nA
I_{EBO}	$V_{BE}=10\text{V}$			100	nA
BV_{CEO}	$I_C=10\text{mA}$	60			V
BV_{CBO}	$I_C=10\mu\text{A}$	80			V
BV_{EBO}	$I_E=100\text{nA}$	10			V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$			1.0	V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$			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

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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)

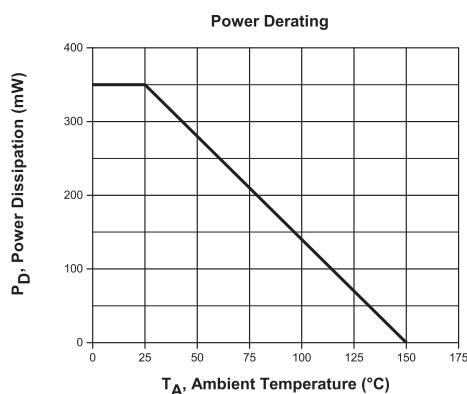
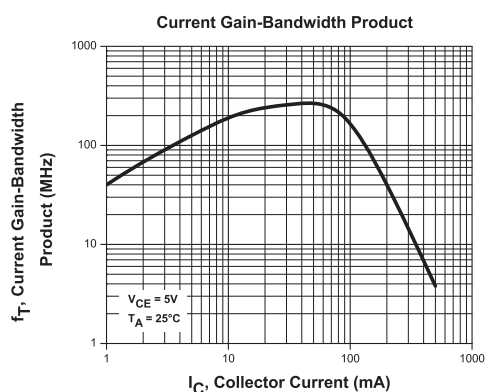
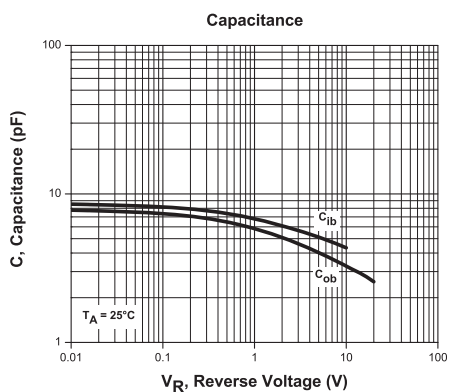
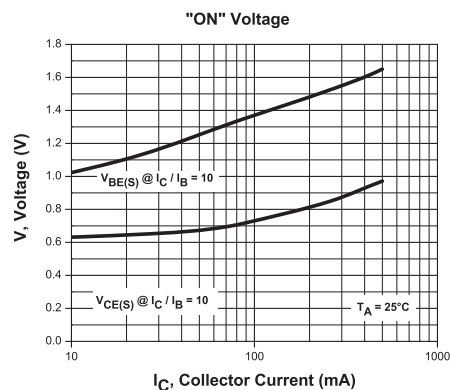
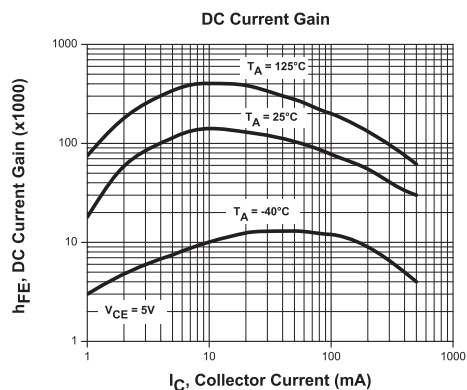
R3 (23-April 2015)

BCV47

**SURFACE MOUNT SILICON
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TYPICAL ELECTRICAL CHARACTERISTICS



R3 (23-April 2015)

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

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- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
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- Application notes
- Application and design sample kits
- Custom product and package development

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