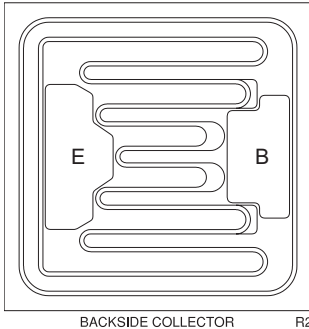


CP305V-BC817

NPN - Small Signal Transistor Die

0.5 Amp, 45 Volt

The CP305V-BC817 is a silicon NPN small signal transistor designed for general purpose amplifier and switching applications.



MECHANICAL SPECIFICATIONS:

Die Size	31.1 x 31.1 MILS
Die Thickness	7.1 MILS
Base Bonding Pad Size	5.9 x 11.8 MILS
Emitter Bonding Pad Size	6.5 x 13.8 MILS
Top Side Metalization	Al – 13,000Å
Back Side Metalization	Au/As-Au – 9,000Å
Scribe Alley Width	1.96 MILS
Wafer Diameter	5 INCHES
Gross Die Per Wafer	17,534

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

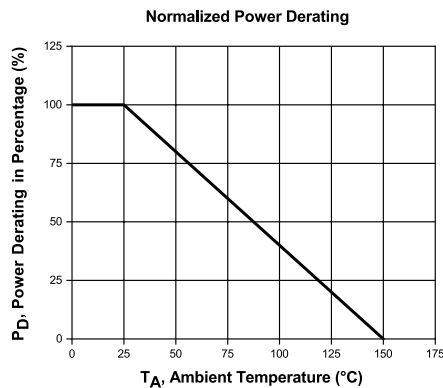
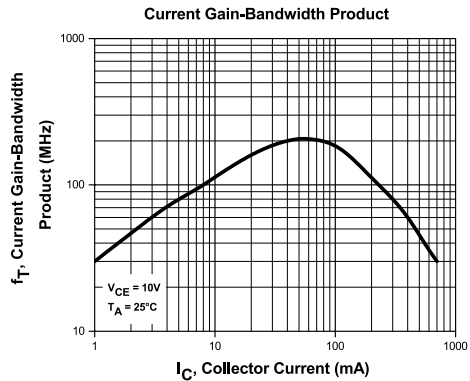
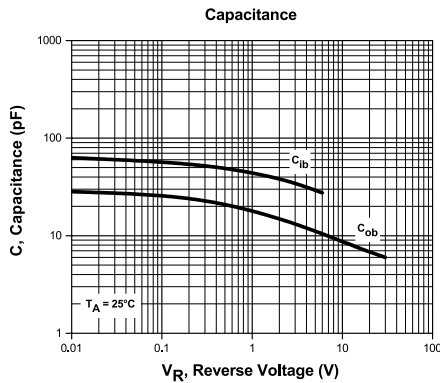
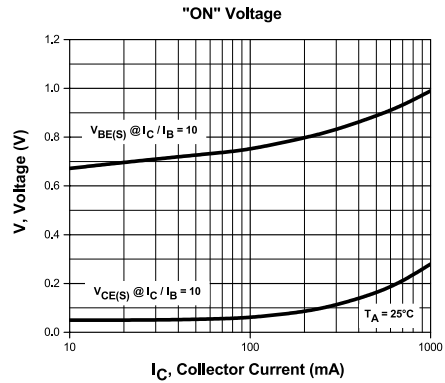
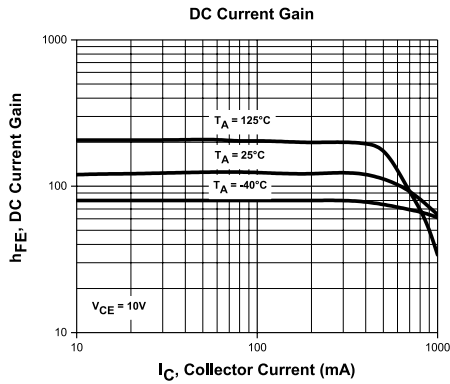
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	500	mA
Peak Collector Current	I_{CM}	1.0	A
Peak Base Current	I_{BM}	200	mA
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=20\text{V}$			100	nA
I_{CBO}	$V_{CB}=20\text{V}, T_J=150^\circ\text{C}$			5.0	uA
I_{EBO}	$V_{EB}=5.0\text{V}$			100	nA
BV_{CES}	$I_C=10\mu\text{A}$	50			V
BV_{CEO}	$I_C=10\text{mA}$	45			V
BV_{EBO}	$I_E=1.0\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.7	V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$			1.2	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	100		600	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$	40			
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100			MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		10		pF

CP305V-BC817

Typical Electrical Characteristics



BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

CM: Singulated die in tray (waffle) pack 100% visually inspected as per MIL-STD-750, (method 2072 transistors, method 2073 diodes).
(example: CP211-PART NUMBER-CM)



UNSAWN WAFER

WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



SAWN WAFER ON PLASTIC RING

WR: Full wafer, sawn and mounted on plastic ring,
100% tested with reject die inked.
(example: CP211-PART NUMBER-WR)

Please note: Sawn Wafer on Metal Frame (WS) is possible as a special order. Please contact your Central Sales Representative at 631-435-1110.



Visit the Central website for a complete listing of specifications:
www.centrasemi.com/bdspecs

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

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