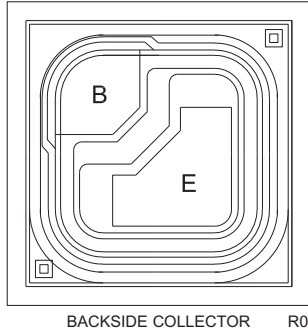


CP788X-2N3799

PNP - General Purpose Transistor Die

The CP788X-2N3799 is a silicon PNP transistor designed for general purpose applications.



MECHANICAL SPECIFICATIONS:

Die Size	13.7 x 13.7 MILS
Die Thickness	5.9 MILS
Base Bonding Pad Size	4.0 x 4.0 MILS
Emitter Bonding Pad Size	5.5 x 5.5 MILS
Top Side Metalization	Al-Si – 17,000Å
Back Side Metalization	Au – 9,000Å
Scribe Alley Width	1.8 MILS
Wafer Diameter	5 INCHES
Gross Die Per Wafer	91,469

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	50	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	MAX	UNITS
I_{CBO}	$V_{CB}=50\text{V}$		10	nA
I_{EBO}	$V_{EB}=4.0\text{V}$		20	nA
BV_{CBO}	$I_C=10\mu\text{A}$	60		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=100\mu\text{A}, I_B=10\mu\text{A}$		0.20	V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=100\mu\text{A}$		0.25	V
$V_{BE(SAT)}$	$I_C=100\mu\text{A}, I_B=10\mu\text{A}$		0.70	V
$V_{BE(SAT)}$	$I_C=1.0\text{mA}, I_B=100\mu\text{A}$		0.80	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$		0.70	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\mu\text{A}$	75		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$	225		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$	300		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}$	300	900	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	300		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	250		

CP788X-2N3799

Typical Electrical Characteristics

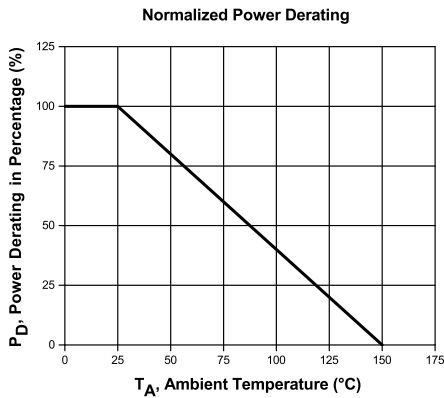
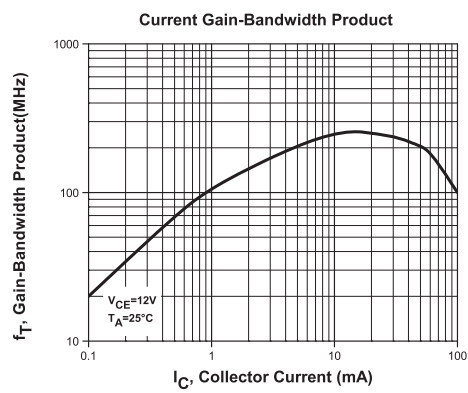
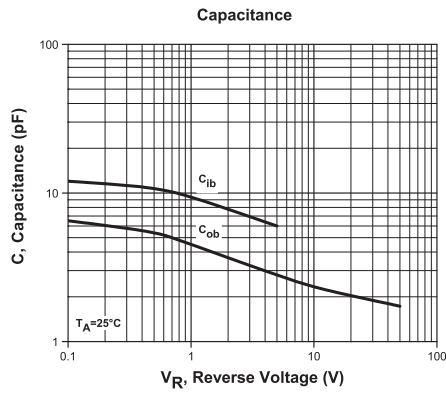
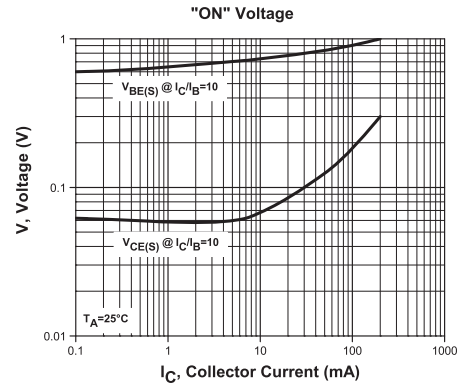
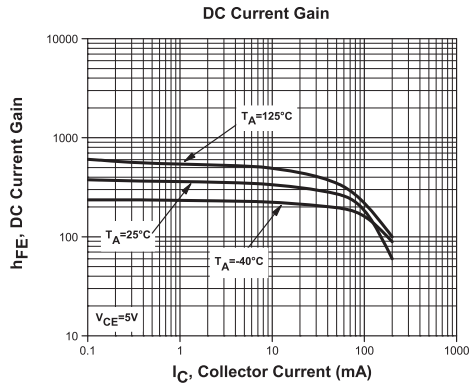
ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
f_T	$V_{CE}=5.0\text{V}$, $I_C=500\mu\text{A}$, $f=30\text{MHz}$	30			MHz
f_T^*	$V_{CE}=5.0\text{V}$, $I_C=1.0\text{mA}$, $f=100\text{MHz}$		80		MHz
C_{ob}^*	$V_{CB}=5.0\text{V}$, $I_E=0$, $f=100\text{kHz}$			5.0	pF
C_{ib}^*	$V_{EB}=0.5\text{V}$, $I_C=0$, $f=100\text{kHz}$			15	pF
h_{ie}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	10		40	$k\Omega$
h_{re}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$			25	$\times 10^{-4}$
h_{fe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	300		900	
h_{oe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	5.0		60	μS
NF	$V_{CE}=10\text{V}$, $I_C=100\mu\text{A}$, $R_G=3.0k\Omega$, $f=100\text{Hz}$, $BW=20\text{Hz}$		2.5	4.0	dB
NF	$V_{CE}=10\text{V}$, $I_C=100\mu\text{A}$, $R_G=3.0k\Omega$, $f=1.0\text{kHz}$, $BW=200\text{Hz}$		0.8	1.5	dB
NF	$V_{CE}=10\text{V}$, $I_C=100\mu\text{A}$, $R_G=3.0k\Omega$, $f=10\text{kHz}$, $BW=2.0\text{kHz}$		0.8	1.5	dB
NF	$V_{CE}=10\text{V}$, $I_C=100\mu\text{A}$, $R_G=3.0k\Omega$, Broadband $BW=10\text{Hz}$ to 15.7kHz		1.5	2.5	dB

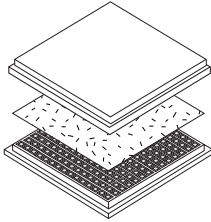
* Limits not in accordance with JEDEC registered values.

CP788X-2N3799

Typical Electrical Characteristics



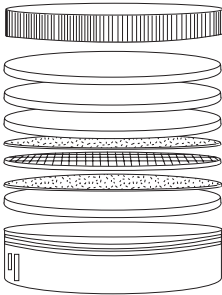
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

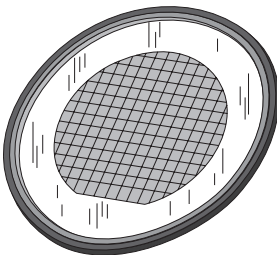
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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

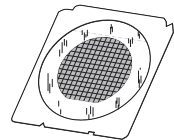
WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



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).

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