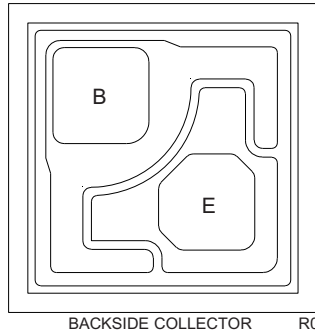


CP392V-CMLT3904E

NPN - General Purpose Transistor Die

0.2 Amp, 40 Volt

The CP392V-CMLT3904E is a silicon NPN transistor designed for general purpose applications.



MECHANICAL SPECIFICATIONS:

Die Size	11 x 11 MILS
Die Thickness	7.1 MILS
Base Bonding Pad Size	3.74 x 3.74 MILS
Emitter Bonding Pad Size	3.74 x 3.74 MILS
Top Side Metalization	Al – 30,000Å
Back Side Metalization	Au – 12,000Å
Scribe Alley Width	1.5 MILS
Wafer Diameter	4 INCHES
Gross Die Per Wafer	93,826

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter-Base Voltage	V _{EBO}	6.0	V
Continuous Collector Current	I _C	200	mA
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS: (T_A=25°C)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CEV}	V _{CE} =30V, V _{EB} =3.0V		50	nA
BV _{CBO}	I _C =10μA	60		V
BV _{CEO}	I _C =1.0mA	40		V
BV _{EBO}	I _E =10μA	6.0		V
V _{CE} (SAT)	I _C =10mA, I _B =1.0mA		0.10	V
V _{CE} (SAT)	I _C =50mA, I _B =5.0mA		0.20	V
V _{BE} (SAT)	I _C =10mA, I _B =1.0mA	0.65	0.85	V
V _{BE} (SAT)	I _C =50mA, I _B =5.0mA		0.95	V
h _{FE}	V _{CE} =1.0V, I _C =0.1mA	90		
h _{FE}	V _{CE} =1.0V, I _C =1.0mA	100		
h _{FE}	V _{CE} =1.0V, I _C =10mA	100	300	
h _{FE}	V _{CE} =1.0V, I _C =50mA	70		
h _{FE}	V _{CE} =1.0V, I _C =100mA	30		
f _T	V _{CE} =20V, I _C =10mA, f=100MHz	300		MHz
C _{ob}	V _{CB} =5.0V, I _E =0, f=1.0MHz		4.0	pF
C _{ib}	V _{BE} =0.5V, I _C =0, f=1.0MHz		12	pF

R1 (20-September 2018)

CP392V-CMLT3904E

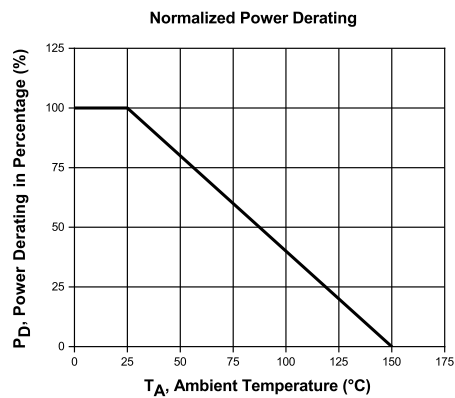
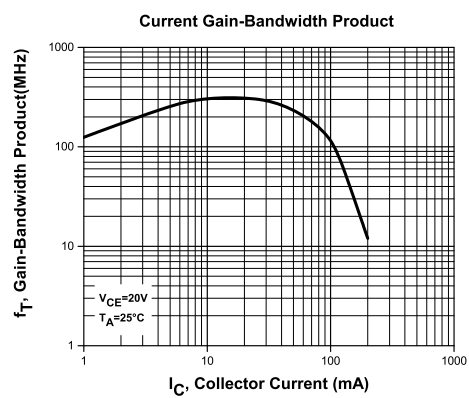
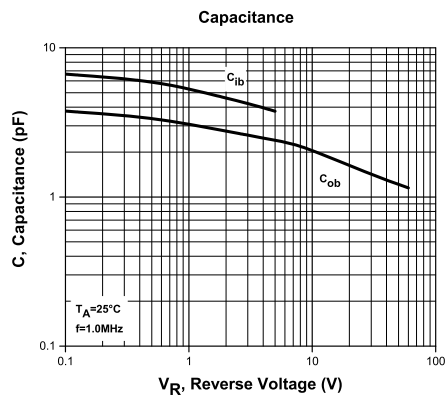
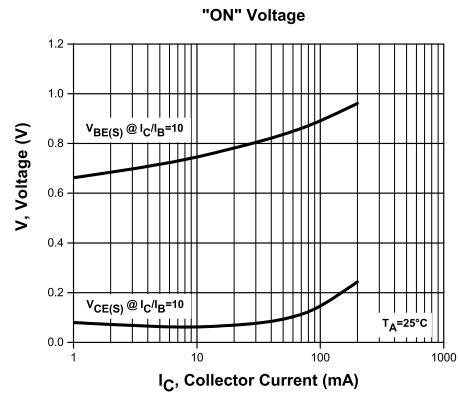
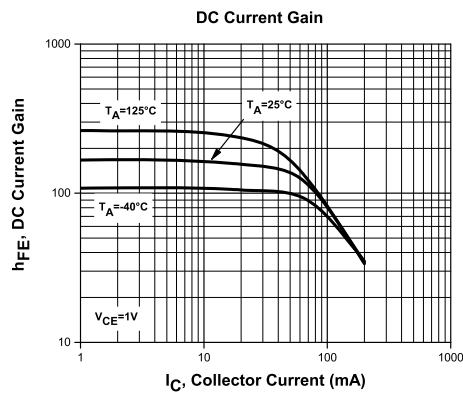
Typical Electrical Characteristics

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

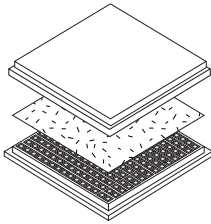
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{ie}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	1.0	12	$k\Omega$
h_{re}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	0.1	10	$\times 10^{-4}$
h_{fe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	100	400	
h_{oe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	1.0	60	μS
NF	$V_{CE}=5.0\text{V}$, $I_C=100\mu\text{A}$, $R_S=1.0k\Omega$, $f=10\text{Hz}$ to 15.7kHz		4.0	dB
t_d	$V_{CC}=3.0\text{V}$, $V_{BE}=0.5\text{V}$, $I_C=10\text{mA}$, $I_{B1}=1.0\text{mA}$		35	ns
t_r	$V_{CC}=3.0\text{V}$, $V_{BE}=0.5\text{V}$, $I_C=10\text{mA}$, $I_{B1}=1.0\text{mA}$		35	ns
t_s	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$		200	ns
t_f	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$		50	ns

CP392V-CMLT3904E

Typical Electrical Characteristics



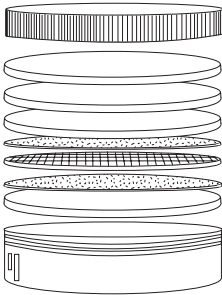
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

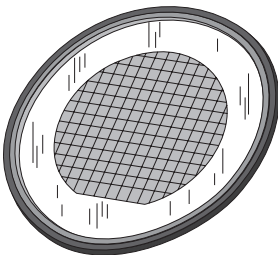
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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

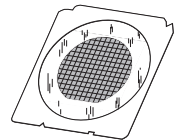
WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



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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