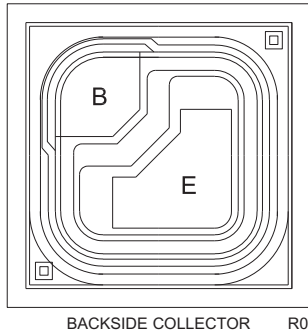


# CP788X-BCX71K

## PNP - General Purpose Transistor Die

The CP788X-BCX71K 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<sub>A</sub>=25°C)

|                                            | SYMBOL                            |             | UNITS |
|--------------------------------------------|-----------------------------------|-------------|-------|
| Collector-Base Voltage                     | V <sub>CBO</sub>                  | 45          | V     |
| Collector-Emitter Voltage                  | V <sub>CEO</sub>                  | 45          | V     |
| Emitter-Base Voltage                       | V <sub>EBO</sub>                  | 5.0         | V     |
| Continuous Collector Current               | I <sub>C</sub>                    | 100         | mA    |
| Peak Collector Current                     | I <sub>CM</sub>                   | 200         | mA    |
| Peak Base Current                          | I <sub>BM</sub>                   | 200         | mA    |
| Operating and Storage Junction Temperature | T <sub>J</sub> , T <sub>stg</sub> | -65 to +150 | °C    |

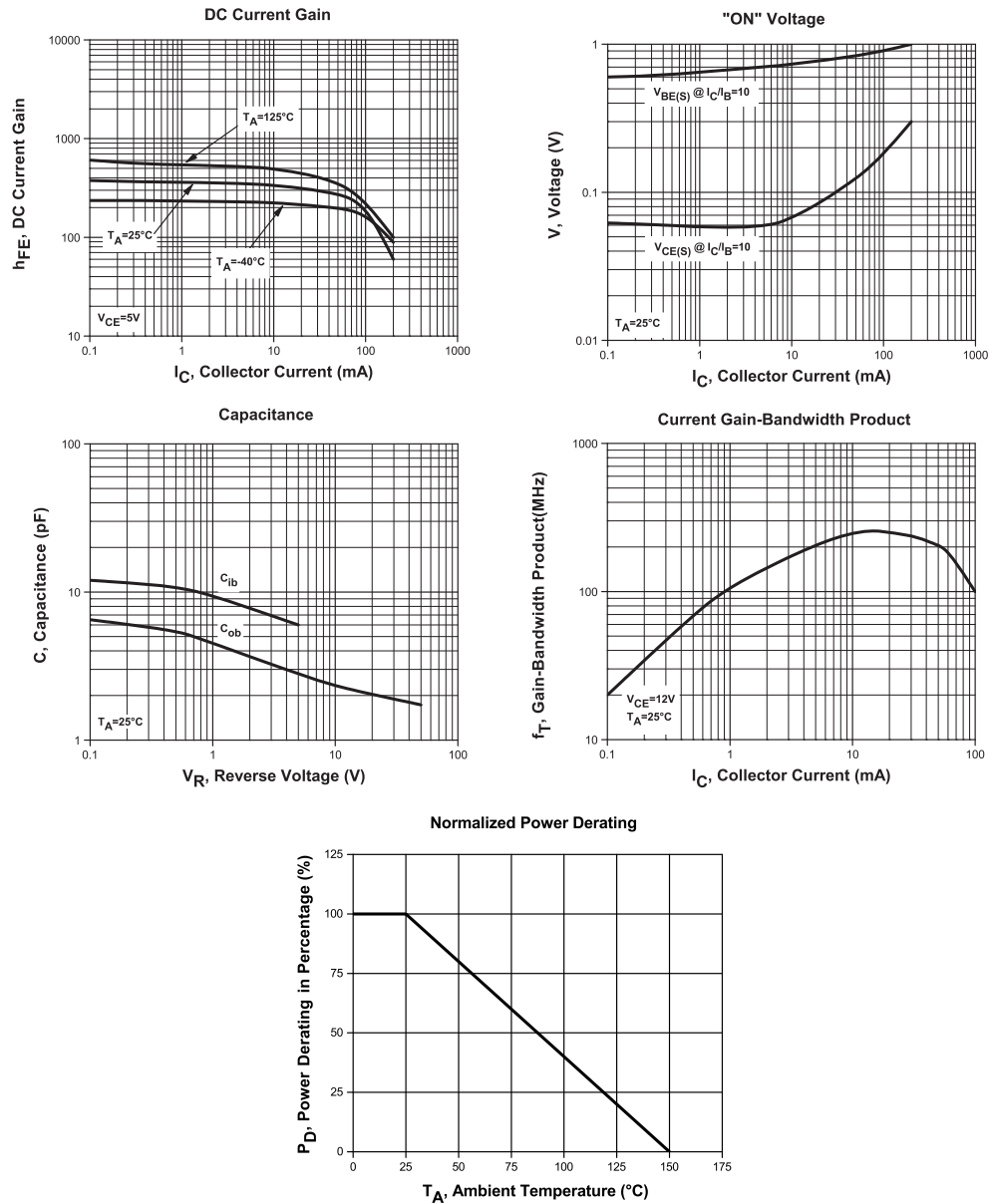
### ELECTRICAL CHARACTERISTICS: (T<sub>A</sub>=25°C)

| SYMBOL                | TEST CONDITIONS                                                                         | MIN  | TYP | MAX  | UNITS |
|-----------------------|-----------------------------------------------------------------------------------------|------|-----|------|-------|
| I <sub>CBO</sub>      | V <sub>CB</sub> =45V                                                                    |      |     | 20   | nA    |
| I <sub>EBO</sub>      | V <sub>EB</sub> =4.0V                                                                   |      |     | 20   | nA    |
| BV <sub>CBO</sub>     | I <sub>C</sub> =10μA                                                                    | 45   |     |      | V     |
| BV <sub>CEO</sub>     | I <sub>C</sub> =10mA                                                                    | 45   |     |      | V     |
| BV <sub>EBO</sub>     | I <sub>E</sub> =1.0μA                                                                   | 5.0  |     |      | V     |
| V <sub>CE</sub> (SAT) | I <sub>C</sub> =10mA, I <sub>B</sub> =250μA                                             | 0.06 |     | 0.25 | V     |
| V <sub>CE</sub> (SAT) | I <sub>C</sub> =50mA, I <sub>B</sub> =1.25mA                                            | 0.12 |     | 0.55 | V     |
| V <sub>BE</sub> (SAT) | I <sub>C</sub> =10mA, I <sub>B</sub> =250μA                                             | 0.60 |     | 0.85 | V     |
| V <sub>BE</sub> (SAT) | I <sub>C</sub> =50mA, I <sub>B</sub> =1.25mA                                            | 0.68 |     | 1.05 | V     |
| V <sub>BE</sub> (ON)  | V <sub>CE</sub> =5.0V, I <sub>C</sub> =2.0mA                                            | 0.60 |     | 0.75 | V     |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA                                             | 100  |     |      |       |
| h <sub>FE</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =2.0mA                                            | 380  |     | 630  |       |
| h <sub>FE</sub>       | V <sub>CE</sub> =1.0V, I <sub>C</sub> =50mA                                             | 110  |     |      |       |
| f <sub>T</sub>        | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA, f=100MHz                                   | 100  |     |      | MHz   |
| C <sub>c</sub>        | V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1.0MHz                                       |      | 4.5 |      | pF    |
| C <sub>e</sub>        | V <sub>EB</sub> =0.5V, I <sub>C</sub> =0, f=1.0MHz                                      |      | 11  |      | pF    |
| NF                    | V <sub>CE</sub> =5.0V, I <sub>C</sub> =200μA, R <sub>S</sub> =2.0kΩ, f=1.0kHz, BW=200Hz |      |     | 6.0  | dB    |

R0 (23-August 2016)

# CP788X-BCX71K

## Typical Electrical Characteristics



## BARE DIE PACKING OPTIONS

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### 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)

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### UNSAWN WAFER

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

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### 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](http://www.centrasemi.com/bdspecs)**

## 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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