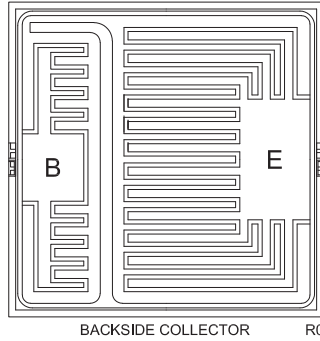


CP127-2N6301

NPN - Darlington Transistor Die

8.0 Amp, 80 Volt

The CP127-2N6301 is a silicon NPN Darlington power transistor designed for high gain amplifier applications.



MECHANICAL SPECIFICATIONS:

| | |
|--------------------------|------------------------|
| Die Size | 110 x 110 MILS |
| Die Thickness | 10.6 MILS |
| Base Bonding Pad Size | 21 x 24 MILS |
| Emitter Bonding Pad Size | 24 x 42 MILS |
| Top Side Metalization | Al - 20,000Å |
| Back Side Metalization | Ni/Ag - 2,000Å/10,000Å |
| Scribe Alley Width | 4.3 MILS |
| Wafer Diameter | 4 INCHES |
| Gross Die Per Wafer | 700 |

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

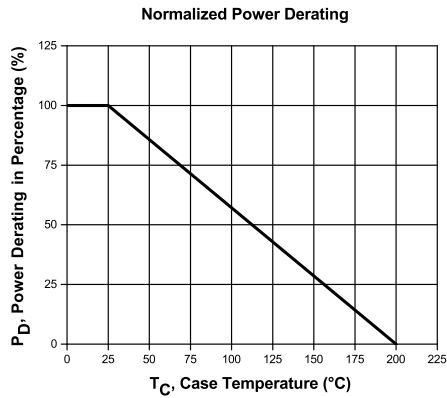
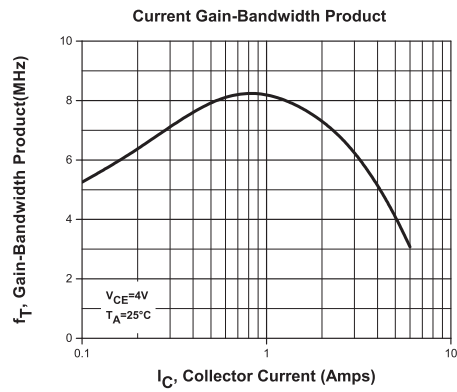
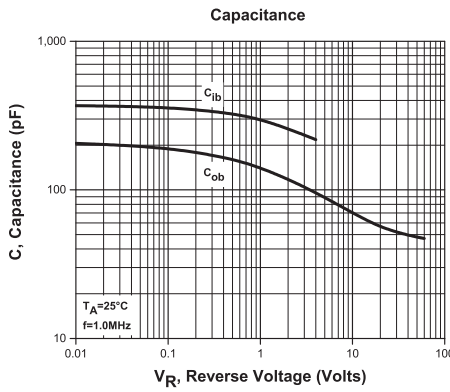
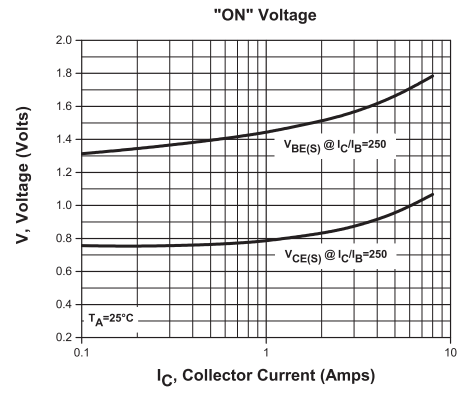
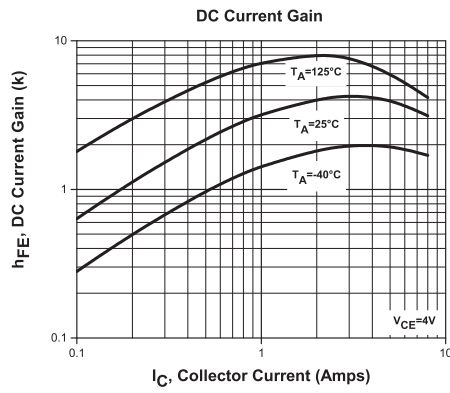
| | SYMBOL | | UNITS |
|--|----------------|-------------|------------------|
| Collector-Base Voltage | V_{CB0} | 80 | V |
| Collector-Emitter Voltage | V_{CEO} | 80 | V |
| Emitter-Base Voltage | V_{EBO} | 5.0 | V |
| Continuous Collector Current | I_C | 8.0 | A |
| Operating and Storage Junction Temperature | T_J, T_{stg} | -65 to +200 | $^\circ\text{C}$ |

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

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|--|-----|-----|-------|
| I_{CEV} | $V_{CE}=80\text{V}, V_{BE}=1.5\text{V}$ | | 0.5 | mA |
| I_{CEV} | $V_{CE}=80\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ | | 5.0 | mA |
| I_{CEO} | $V_{CE}=40\text{V}$ | | 0.5 | mA |
| I_{EBO} | $V_{EB}=5.0\text{V}$ | | 2.0 | mA |
| BV_{CEO} | $I_C=100\text{mA}$ | 80 | | V |
| $V_{CE(SAT)}$ | $I_C=4.0\text{A}, I_B=16\text{mA}$ | | 2.0 | V |
| $V_{CE(SAT)}$ | $I_C=8.0\text{A}, I_B=80\text{mA}$ | | 3.0 | V |
| $V_{BE(SAT)}$ | $I_C=8.0\text{A}, I_B=80\text{mA}$ | | 4.0 | V |
| $V_{BE(ON)}$ | $V_{CE}=3.0\text{V}, I_C=4.0\text{A}$ | | 2.8 | V |
| h_{FE} | $V_{CE}=3.0\text{V}, I_C=4.0\text{A}$ | 750 | 18K | |
| h_{FE} | $V_{CE}=3.0\text{V}, I_C=8.0\text{A}$ | 100 | | |
| h_{fe} | $V_{CE}=3.0\text{V}, I_C=3.0\text{A}, f=1.0\text{kHz}$ | 300 | | |
| f_T | $V_{CE}=3.0\text{V}, I_C=3.0\text{A}, f=1.0\text{MHz}$ | 4.0 | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ | | 200 | pF |

CP127-2N6301

Typical Electrical Characteristics



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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