

MPSA62 MPSA65
MPSA63 MPSA66
MPSA64

**SILICON
PNP DARLINGTON TRANSISTORS**



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPSA62 series devices are silicon PNP Darlington transistors, manufactured by the epitaxial planar process, designed for applications requiring extremely high gain.

MARKING: FULL PART NUMBER

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

| | | | | | |
|--|----------------|----|-------------|-----|--------------------|
| Collector-Base Voltage | V_{CB0} | 20 | 30 | 30 | V |
| Collector-Emitter Voltage | V_{CES} | 20 | 30 | 30 | V |
| Emitter-Base Voltage | V_{EBO} | 10 | 10 | 8.0 | V |
| Continuous Collector Current | I_C | | 500 | | mA |
| Power Dissipation | P_D | | 625 | | mW |
| Operating and Storage Junction Temperature | T_J, T_{stg} | | -65 to +150 | | $^\circ\text{C}$ |
| Thermal Resistance | θ_{JA} | | 200 | | $^\circ\text{C/W}$ |

| SYMBOL | MPSA63 | MPSA65 | UNITS | | UNITS |
|----------------|--------|-------------|--------|--|--------------------|
| | MPSA62 | MPSA64 | MPSA66 | | |
| V_{CB0} | 20 | 30 | 30 | | V |
| V_{CES} | 20 | 30 | 30 | | V |
| V_{EBO} | 10 | 10 | 8.0 | | V |
| I_C | | 500 | | | mA |
| P_D | | 625 | | | mW |
| T_J, T_{stg} | | -65 to +150 | | | $^\circ\text{C}$ |
| θ_{JA} | | 200 | | | $^\circ\text{C/W}$ |

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

| SYMBOL | TEST CONDITIONS | MPSA62 | | MPSA63 | | MPSA64 | | MPSA65 | | MPSA66 | | UNITS |
|---------------|--|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-------|
| | | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | |
| I_{CBO} | $V_{CB}=15\text{V}$ | - | 100 | - | - | - | - | - | - | - | - | nA |
| I_{CBO} | $V_{CB}=30\text{V}$ | - | - | - | 100 | - | 100 | - | 100 | - | 100 | nA |
| I_{EBO} | $V_{EB}=10\text{V}$ | - | 100 | - | 100 | - | 100 | - | - | - | - | nA |
| I_{EBO} | $V_{EB}=8.0\text{V}$ | - | - | - | - | - | - | - | 100 | - | 100 | nA |
| BV_{CES} | $I_C=100\mu\text{A}$ | 20 | - | 30 | - | 30 | - | 30 | - | 30 | - | V |
| $V_{CE(SAT)}$ | $I_C=10\text{mA}, I_B=10\mu\text{A}$ | - | 1.0 | - | - | - | - | - | - | - | - | V |
| $V_{CE(SAT)}$ | $I_C=100\text{mA}, I_B=0.1\text{mA}$ | - | - | - | 1.5 | - | 1.5 | - | 1.5 | - | 1.5 | V |
| $V_{BE(ON)}$ | $V_{CE}=5.0\text{V}, I_B=10\text{mA}$ | - | 1.4 | - | - | - | - | - | - | - | - | V |
| $V_{BE(ON)}$ | $V_{CE}=5.0\text{V}, I_B=100\text{mA}$ | - | - | - | 2.0 | - | 2.0 | - | 2.0 | - | 2.0 | V |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=10\text{mA}$ | 20K | - | 5K | - | 10K | - | 50K | - | 75K | - | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=100\text{mA}$ | - | - | 10K | - | 20K | - | 20K | - | 40K | - | |
| f_T | $V_{CE}=5.0\text{V}, I_C=100\text{mA}, f=100\text{MHz}$ | - | - | 125 | - | 125 | - | - | - | - | - | MHz |
| f_T | $V_{CE}=10\text{V}, I_C=30\text{mA}, f=50\text{MHz}$ | - | - | - | - | - | - | 100 | - | 100 | - | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ | 2.5 (TYP) | | 2.5 (TYP) | | 2.5 (TYP) | | 2.5 (TYP) | | 2.5 (TYP) | | pF |
| NF | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, R_S=100\text{k}\Omega, f=1.0\text{kHz}$ | 2.0 (TYP) | | 2.0 (TYP) | | 2.0 (TYP) | | 2.0 (TYP) | | 2.0 (TYP) | | dB |

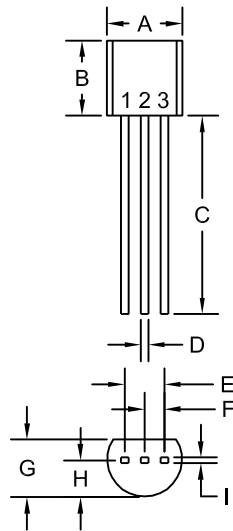
R1 (18-March 2014)

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TO-92 CASE - MECHANICAL OUTLINE



R1

| SYMBOL | INCHES | | MILLIMETERS | |
|---------|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A (DIA) | 0.175 | 0.205 | 4.45 | 5.21 |
| B | 0.170 | 0.210 | 4.32 | 5.33 |
| C | 0.500 | - | 12.70 | - |
| D | 0.016 | 0.022 | 0.41 | 0.56 |
| E | 0.100 | | 2.54 | |
| F | 0.050 | | 1.27 | |
| G | 0.125 | 0.165 | 3.18 | 4.19 |
| H | 0.080 | 0.105 | 2.03 | 2.67 |
| I | 0.015 | | 0.38 | |

TO-92 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING:
FULL PART NUMBER

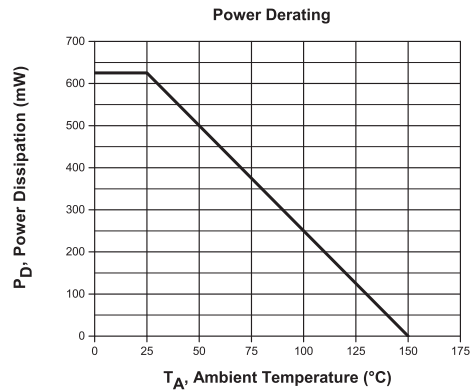
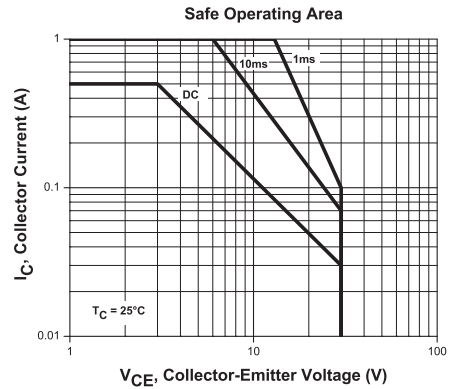
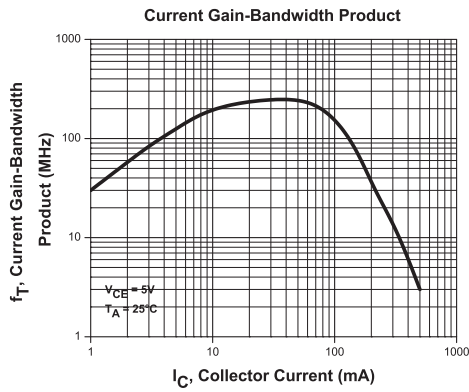
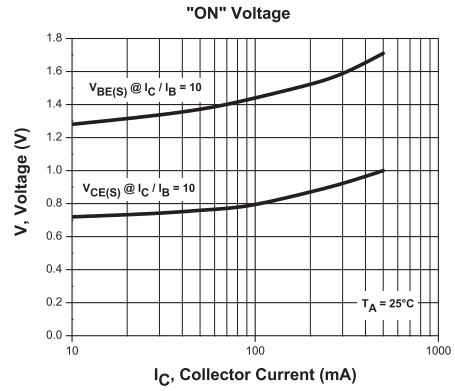
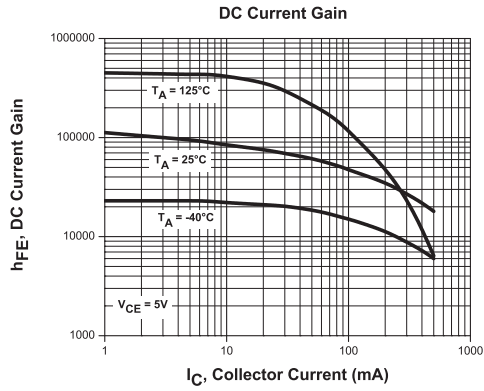
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TYPICAL ELECTRICAL CHARACTERISTICS



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