Data Sheet

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Manufacturers of World Class Discrete Semiconductors

# MPSA62
# MPSA63
# MPSA64
# MPSA65
# MPSA66

PNP SILICON DARLINGTON TRANSISTORS

JEDEC TO-92 CASE (EBC)

## DESCRIPTION

The CENTRAL SEMICONDUCTOR MPSA62 series types are molded epoxy silicon PNP transistors manufactured by the epitaxial planar process designed for extremely high gain applications.

## MAXIMUM RATINGS ($T_A$=25°C unless otherwise noted)

| | SYMBOL | MPSA62 | MPSA63 | MPSA64 | MPSA65 | MPSA66 | UNIT |
|---|---|---|---|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 20 | 30 | 30 | 30 | 30 | V |
| Collector-Emitter Voltage | $V_{CES}$ | 20 | 30 | 30 | 30 | 30 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 10 | 10 | 10 | 8.0 | 8.0 | V |
| Collector Current | $I_C$ | | | 500 | | | mA |
| Power Dissipation | $P_D$ | | | 625 | | | mW |
| Power Dissipation ($T_C$=25°C) | $P_D$ | | | 1.5 | | | W |
| Operating and Storage Junction Temperature | $T_J$, $T_{STG}$ | | | -65 to +150 | | | °C |
| Thermal Resistance | ΘJA | | | 200 | | | °C/W |
| Thermal Resistance | ΘJC | | | 83.3 | | | °C/W |

## ELECTRICAL CHARACTERISTICS

| SYMBOL | TEST CONDITIONS | MPSA62 MIN | MPSA62 MAX | MPSA63 MIN | MPSA63 MAX | MPSA64 MIN | MPSA64 MAX | MPSA65 MIN | MPSA65 MAX | MPSA66 MIN | MPSA66 MAX | UNIT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $I_{CBO}$ | $V_{CB}$=15V | | 100 | | - | | - | | - | | - | nA |
| $I_{CBO}$ | $V_{CB}$=30V | | - | | 100 | | 100 | | 100 | | 100 | nA |
| $I_{EBO}$ | $V_{BE}$=10V | | 100 | | 100 | | 100 | | - | | - | nA |
| $I_{EBO}$ | $V_{BE}$=8.0V | | - | | - | | - | | 100 | | 100 | nA |
| $BV_{CES}$ | $I_C$=100µA | 20 | | 30 | | 30 | | 30 | | 30 | | V |
| $V_{CE(SAT)}$ | $I_C$=10mA, $I_B$=.01mA | | 1.0 | | - | | - | | - | | - | V |
| $V_{CE(SAT)}$ | $I_C$=100mA, $I_B$=0.1mA | | - | | 1.5 | | 1.5 | | 1.5 | | 1.5 | V |
| $V_{BE(ON)}$ | $V_{CE}$=5.0V, $I_C$=10mA | | 1.4 | | - | | - | | - | | - | V |
| $V_{BE(ON)}$ | $V_{CE}$=5.0V, $I_C$=100mA | | - | | 2.0 | | 2.0 | | 2.0 | | 2.0 | V |
| $h_{FE}$ | $V_{CE}$=5.0V, $I_C$=10mA | 20k | | 5k | | 10k | | 50k | | 75k | | |
| $h_{FE}$ | $V_{CE}$=5.0V, $I_C$=100mA | - | | 10k | | 20k | | 20k | | 40k | | |
| $f_T$ | $V_{CE}$=5.0V, $I_C$=100mA, f=100MHz | - | | 125 | | 125 | | - | | - | | MHz |
| $f_T$ | $V_{CE}$=10V, $I_C$=30mA, f=50MHz | - | | - | | - | | 100 | | 100 | | MHz |
| $C_{ob}$ | $V_{CB}$=10V, $I_E$=0, f=100kHz | 2.5 TYP | | 2.5 TYP | | 2.5 TYP | | 2.5 TYP | | 2.5 TYP | | pF |
| NF | $V_{CE}$=5.0V, $I_C$=1.0mA, $R_S$=100kΩ, f=1.0kHz | 2.0 TYP | | 2.0 TYP | | 2.0 TYP | | 2.0 TYP | | 2.0 TYP | | dB |