

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

MPS3704
MPS3705
MPS3706

SILICON NPN TRANSISTOR

JEDEC TO-92 CASE (EBC)

DESCRIPTION

The CENTRAL SEMICONDUCTOR MPS3704 thru MPS3706 are NPN silicon planar transistors for general purpose switching and amplifier applications.

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

| | SYMBOL | MPS3704 MPS3705 | MPS3706 | UNIT |
|--|----------------|--------------------|---------|------------------|
| Collector-Base Voltage | V_{CB0} | 50 | 40 | V |
| Collector-Emitter Voltage | V_{CE0} | 30 | 20 | V |
| Emitter-Base Voltage | V_{EB0} | 5.0 | 5.0 | V |
| Collector Current | I_C | 600 | 600 | mA |
| Power Dissipation | P_D | 625 | 625 | mW |
| Operating and Storage Junction Temperature | T_J, T_{STG} | -65 TO +150 | | $^\circ\text{C}$ |

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

| SYMBOL | TEST CONDITIONS | MPS3704 | | MPS3705 | | MPS3706 | | UNIT |
|---------------|---|---------|-----|---------|-----|---------|-----|------|
| | | MIN | MAX | MIN | MAX | MIN | MAX | |
| I_{CB0} | $V_{CB}=20\text{V}$ | | 100 | | 100 | | 100 | nA |
| I_{EB0} | $V_{EB}=3.0\text{V}$ | | 100 | | 100 | | 100 | nA |
| BV_{CB0} | $I_C=100\mu\text{A}$ | 50 | | 50 | | 40 | | V |
| BV_{CE0} | $I_C=10\text{mA}$ | 30 | | 30 | | 20 | | V |
| BV_{EB0} | $I_E=100\mu\text{A}$ | 5.0 | | 5.0 | | 5.0 | | V |
| $V_{CE(SAT)}$ | $I_C=100\text{mA}, I_B=5.0\text{mA}$ | | 0.6 | | 0.8 | | 1.0 | V |
| $V_{BE(ON)}$ | $V_{CE}=2.0\text{V}, I_C=100\text{mA}$ | 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | 1.0 | V |
| h_{FE} | $V_{CE}=2.0\text{V}, I_C=50\text{mA}$ | 100 | 300 | 50 | 100 | 30 | 600 | |
| f_T | $V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$ | 100 | | 100 | | 100 | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | 12 | | 12 | | 12 | pF |

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).

CONTACT US

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MPS3706 TIN/LEAD