

# Central<sup>TM</sup> Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA  
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

MPS6560      MPS6561      NPN  
MPS6562      MPS6563      PNP

COMPLEMENTARY SILICON TRANSISTORS

JEDEC TO-92 CASE (EBC)

## DESCRIPTION

The CENTRAL SEMICONDUCTOR MPS6560 series types are complementary silicon epitaxial planar transistors designed for general purpose amplifier and switching applications.

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

|  | SYMBOL         | MPS6560<br>MPS6562 | MPS6561<br>MPS6563 | UNIT               |
|--|----------------|--------------------|--------------------|--------------------|
| Collector-Base Voltage                       | $V_{CB0}$      | 25                 | 20                 | V                  |
| Collector-Emitter Voltage                    | $V_{CE0}$      | 25                 | 20                 | V                  |
| Emitter-Base Voltage                         | $V_{EB0}$      |                    | 5.0                | V                  |
| Collector Current                            | $I_C$          |                    | 600                | mA                 |
| Power Dissipation                            | $P_D$          |                    | 625                | mW                 |
| Power Dissipation ( $T_C=25^\circ\text{C}$ ) | $P_D$          |                    | 1.5                | W                  |
| Operating and Storage Junction Temperature   | $T_J, T_{STG}$ | -65 TO +150        |                    | $^\circ\text{C}$   |
| Thermal Resistance                           | $\theta_{JA}$  |                    | 0.20               | $^\circ\text{C/W}$ |
| Thermal Resistance                           | $\theta_{JC}$  |                    | 0.83               | $^\circ\text{C/W}$ |

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

| SYMBOL               | TEST CONDITIONS                                      | MPS6560<br>MPS6562 |     | MPS6561<br>MPS6563 |     | UNIT |
|----------------------|--|--------------------|-----|--------------------|-----|------|
|                      |  | MIN                | MAX | MIN                | MAX |      |
| $I_{CB0}$            | $V_{CB}=20\text{V}$                                  |                    | 100 |                    | 100 | nA   |
| $I_{CE0}$            | $V_{CE}=\text{Rated } V_{CE0}$                       |                    | 100 |                    | 100 | nA   |
| $I_{EB0}$            | $V_{EB}=4.0\text{V}$                                 |                    | 100 |                    | 100 | nA   |
| $BV_{CB0}$           | $I_C=100\mu\text{A}$                                 | 20                 |     | 25                 |     | V    |
| $BV_{CE0}$           | $I_C=10\text{mA}$                                    | 20                 |     | 25                 |     | V    |
| $BV_{EB0}$           | $I_E=100\mu\text{A}$                                 | 5.0                |     | 5.0                |     | V    |
| $V_{CE}(\text{SAT})$ | $I_C=350\text{mA}, I_B=35\text{mA}$                  |                    | -   |                    | 0.5 | V    |
| $V_{CE}(\text{SAT})$ | $I_C=500\text{mA}, I_B=50\text{mA}$                  |                    | 0.5 |                    | -   | V    |
| $V_{BE}(\text{ON})$  | $V_{CE}=1.0\text{V}, I_C=350\text{mA}$               |                    | -   |                    | 1.2 | V    |
| $V_{BE}(\text{ON})$  | $V_{CE}=1.0\text{V}, I_C=500\text{mA}$               |                    | 1.2 |                    | -   | V    |
| $h_{FE}$             | $V_{CE}=1.0\text{V}, I_C=10\text{mA}$                | 35                 | -   | 35                 | -   |      |
| $h_{FE}$             | $V_{CE}=1.0\text{V}, I_C=100\text{mA}$               | 50                 | -   | 50                 | -   |      |
| $h_{FE}$             | $V_{CE}=1.0\text{V}, I_C=350\text{mA}$               | -                  | -   | 50                 | 200 |      |
| $h_{FE}$             | $V_{CE}=1.0\text{V}, I_C=500\text{mA}$               | 50                 | 200 | -                  | -   |      |
| $f_T$                | $V_{CE}=10\text{V}, I_C=10\text{mA}, f=30\text{MHz}$ | 60                 |     | 60                 |     | MHz  |
| $C_{ob}$             | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$          |                    | 30  |                    | 30  | pF   |

## 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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### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

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