

**MPSH10  
MPSH11**

**SILICON  
NPN RF TRANSISTORS**

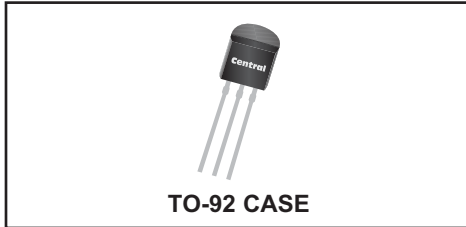


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**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR MPSH10 and MPSH11 are silicon NPN RF transistors manufactured by the epitaxial planar process and designed for low noise UHF/VHF amplifier and high output oscillator applications.

**MARKING: FULL PART NUMBER**



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

|  | SYMBOL         |             | UNITS              |
|--|----------------|-------------|--------------------|
| Collector-Base Voltage                     | $V_{CBO}$      | 30          | V                  |
| Collector-Emitter Voltage                  | $V_{CEO}$      | 25          | V                  |
| Emitter-Base Voltage                       | $V_{EBO}$      | 3.0         | V                  |
| Continuous Collector Current               | $I_C$          | 50          | mA                 |
| Power Dissipation                          | $P_D$          | 350         | mW                 |
| Operating and Storage Junction Temperature | $T_J, T_{stg}$ | -65 to +150 | $^\circ\text{C}$   |
| Thermal Resistance                         | $\Theta_{JA}$  | 357         | $^\circ\text{C/W}$ |

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

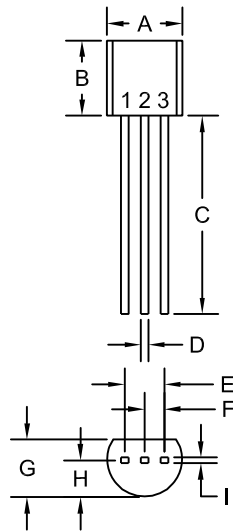
| SYMBOL        | TEST CONDITIONS   | MIN  | MAX  | UNITS |
|---------------|---|------|------|-------|
| $I_{CBO}$     | $V_{CB}=25\text{V}$                                     |      | 100  | nA    |
| $I_{EBO}$     | $V_{EB}=2.0\text{V}$                                    |      | 100  | nA    |
| $BV_{CBO}$    | $I_C=100\mu\text{A}$                                    | 30   |      | V     |
| $BV_{CEO}$    | $I_C=1.0\text{mA}$                                      | 25   |      | V     |
| $BV_{EBO}$    | $I_E=10\mu\text{A}$                                     | 3.0  |      | V     |
| $V_{CE(SAT)}$ | $I_C=4.0\text{mA}, I_B=0.4\text{mA}$                    |      | 0.50 | V     |
| $V_{BE(ON)}$  | $V_{CE}=10\text{V}, I_B=4.0\text{mA}$                   |      | 0.95 | V     |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=4.0\text{mA}$                   | 60   |      |       |
| $f_T$         | $V_{CE}=10\text{V}, I_C=4.0\text{mA}, f=100\text{MHz}$  | 650  |      | MHz   |
| $C_{cb}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$             |      | 0.70 | pF    |
| $C_{rb}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz (MPSH10)}$    | 0.35 | 0.65 | pF    |
| $C_{rb}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz (MPSH11)}$    | 0.60 | 0.90 | pF    |
| $rb'C_C$      | $V_{CB}=10\text{V}, I_C=4.0\text{mA}, f=31.8\text{MHz}$ |      | 9.0  | ps    |

R1 (9-November 2017)

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TO-92 CASE - MECHANICAL OUTLINE



R1

| SYMBOL  | DIMENSIONS |       |             |      |
|---------|------------|-------|-------------|------|
|         | 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) Base
- 2) Emitter
- 3) Collector

MARKING:

FULL PART NUMBER

R1 (9-November 2017)

## 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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### 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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### CONTACT US

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http://www.centrasemi.com

# Product End of Life Notification

|                           |          |
|---------------------------|----------|
| <b>PDN ID:</b>            | PDN01112 |
| <b>Notification Date:</b> | 1/18/19  |
| <b>Last Buy Date:</b>     | 7/18/19  |
| <b>Last Shipment Date</b> | 1/18/20  |

Summary: The CP302 RF Transistor wafer process is discontinued and is now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

| <u>Central Part Number</u> | <u>Replacement</u> |
|----------------------------|--------------------|
| CEN1107                    | N/A, Stock Only    |
| CEN1107 APM                | N/A, Stock Only    |
| CMPH10 BK                  | N/A, Stock Only    |
| CMPH10 TR                  | N/A, Stock Only    |
| CP302-MPSH10-CT            | N/A, Stock Only    |
| CP302-MPSH10-CT20          | N/A, Stock Only    |
| CP302-MPSH10-WN            | N/A, Stock Only    |
| MPSH10                     | N/A, Stock Only    |

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to [engineering@centrasemi.com](mailto:engineering@centrasemi.com).

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.