

M·C·C·

Micro Commercial Components



Micro Commercial Components
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S9012-G
S9012-H
S9012-I

Features

- TO-92 Plastic-Encapsulate Transistors
- Capable of 0.625Watts(Tamb=25°C) of Power Dissipation.
- Collector-current 0.5A
- Collector-base Voltage 40V
- Operating and storage junction temperature range: -55°C to +150°C
- Marking : S9012
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Max | Units |
|--------|-----------|-----|-----|-------|
|--------|-----------|-----|-----|-------|

OFF CHARACTERISTICS

| | | | | |
|---------------|---|-----|-----|--------------|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage ($I_b=100\mu A_{dc}$, $I_e=0$) | 40 | --- | Vdc |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage ($I_b=0.1mA_{dc}$, $I_e=0$) | 25 | --- | Vdc |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage ($I_e=100\mu A_{dc}$, $I_b=0$) | 5.0 | --- | Vdc |
| I_{CBO} | Collector Cutoff Current ($V_{CB}=40V_{dc}$, $I_e=0$) | --- | 0.1 | μA_{dc} |
| I_{CEO} | Collector Cutoff Current ($V_{CE}=20V_{dc}$, $I_b=0$) | --- | 0.2 | μA_{dc} |
| I_{EBO} | Emitter Cutoff Current ($V_{EB}=5.0V_{dc}$, $I_b=0$) | --- | 0.1 | μA_{dc} |

ON CHARACTERISTICS

| | | | | |
|---------------|--|-----|-----|-----|
| $h_{FE(1)}$ | DC Current Gain ($I_b=1mA_{dc}$, $V_{CE}=4.0V_{dc}$) | 64 | 400 | --- |
| $h_{FE(2)}$ | DC Current Gain ($I_b=500mA_{dc}$, $V_{CE}=1.0V_{dc}$) | 40 | --- | --- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage ($I_b=500mA_{dc}$, $I_e=50mA_{dc}$) | --- | 0.6 | Vdc |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage ($I_b=500mA_{dc}$, $I_e=50mA_{dc}$) | --- | 1.2 | Vdc |
| V_{EB} | Base- Emitter Voltage ($I_b=100mA_{dc}$) | --- | 1.4 | Vdc |

SMALL-SIGNAL CHARACTERISTICS

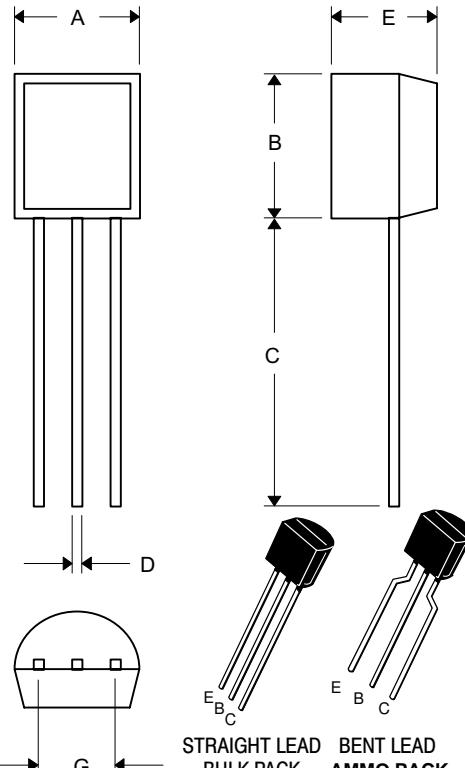
| | | | | |
|-------|--|-----|-----|-----|
| f_T | Transistor Frequency ($I_b=20mA_{dc}$, $V_{CE}=6.0V_{dc}$, $f=30MHz$) | 150 | --- | MHz |
|-------|--|-----|-----|-----|

CLASSIFICATION OF $h_{FE(1)}$

| | | | |
|-------|----------|----------|----------|
| Rank | G | H | I |
| Range | 112 -166 | 144 -202 | 190 -300 |

PNP Silicon Transistors

TO-92



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|------|---------------|
| | MIN | MAX | MIN | MAX | |
| A | .175 | .185 | 4.45 | 4.70 | |
| B | .175 | .185 | 4.45 | 4.70 | |
| C | .500 | --- | 12.70 | --- | |
| D | .016 | .020 | 0.41 | 0.63 | |
| E | .135 | .145 | 3.43 | 3.68 | |
| G | .095 | .105 | 2.42 | 2.67 | Straight Lead |
| | .173 | .220 | 4.40 | 5.60 | Bent Lead |

* For ammo packing detailed specification, click here to visit our website of product packaging for details.

www.mccsemi.com

Ordering Information :

| Device | Packing |
|----------------|-----------------------------|
| Part Number-AP | Ammo Packing: 20Kpcs/Carton |
| Part Number-BP | Bulk: 100Kpcs/Carton |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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