



Micro Commercial Components



Micro Commercial Components
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2SD669(A)
2SD669(A)-B
2SD669(A)-C
2SD669-D

Features

- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Capable of 1 Watts of Power Dissipation.
- Collector-current 1.5A
- Collector-base Voltage 180V
- Operating and storage junction temperature range: -55°C to +150°C
- Halogen free available upon request by adding suffix "-HF"

Electrical Characteristics @ 25°C Unless Otherwise Specified

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

OFF CHARACTERISTICS

| | | | | | |
|---------------|--|-------------------|------------|-----|--------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage ($I_C=10mA_{dc}$, $I_B=0$) | 2SD669 2SD669A | 120 160 | --- | Vdc Vdc |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage ($I_C=1mA_{dc}$, $I_E=0$) | | 180 | --- | Vdc |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage ($I_E=1mA_{dc}$, $I_C=0$) | | 5.0 | --- | Vdc |
| I_{CBO} | Collector Cutoff Current ($V_{CB}=160V_{dc}$, $I_E=0$) | | --- | 10 | μA_{dc} |
| I_{EBO} | Emitter Cutoff Current ($V_{EB}=4V_{dc}$, $I_C=0$) | | --- | 10 | μA_{dc} |

ON CHARACTERISTICS

| | | | | | |
|---------------|--|-------------------|----------|------------|-----|
| h_{FE-1} | DC Current Gain ($I_C=150mA_{dc}$, $V_{CE}=5V_{dc}$) | 2SD669 2SD669A | 60 60 | 320 200 | --- |
| h_{FE-2} | DC Current Gain ($I_C=500mA_{dc}$, $V_{CE}=5V_{dc}$) | | 30 | --- | --- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage ($I_C=500mA_{dc}$, $I_B=50mA_{dc}$) | | --- | 1.0 | Vdc |
| V_{BE} | Base-Emitter Saturation Voltage ($V_{CE}=5V_{dc}$, $I_C=150mA_{dc}$) | | --- | 1.5 | Vdc |
| f_T | Transition Frequency ($V_{CE}=5V_{dc}$, $I_C=150mA_{dc}$) | | 140(TYP) | | MHz |
| C_{ob} | Collector output capacitance ($V_{CB}=10V_{dc}$, $I_E=0$, $f=1MHz$) | | 14(TYP) | | pF |

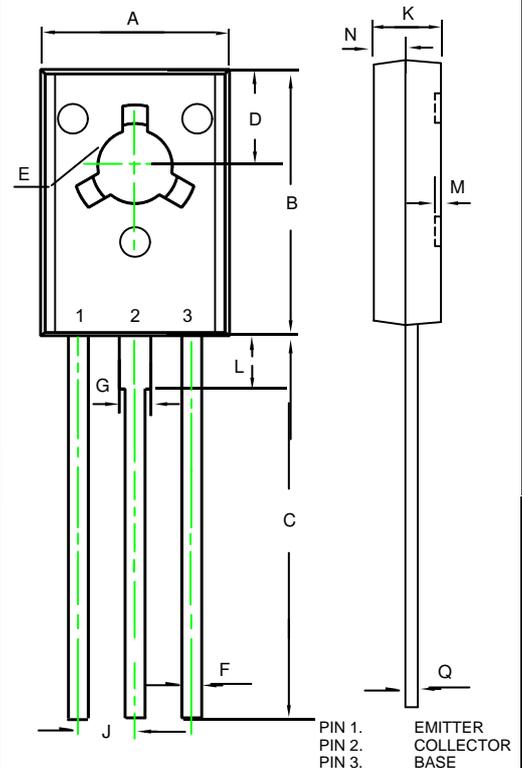
CLASSIFICATION OF H_{FE}

| Rank | B | C | D |
|--------------|--------|---------|---------|
| Range 2SD669 | 60-120 | 100-200 | 160-320 |
| 2SD669A | 60-120 | 100-200 | |

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

NPN Silicon
Plastic-Encapsulate
Transistor

TO-18



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|----------|-------|----------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.291 | 0.307 | 7.40 | 7.80 | |
| B | 0.417 | 0.433 | 10.60 | 11.00 | |
| C | 0.602 | 0.618 | 15.30 | 15.70 | |
| D | 0.154 | 0.161 | 3.90 | 4.10 | |
| E | 0.118 | 0.126 | 3.00 | 3.20 | |
| F | 0.026 | 0.034 | 0.66 | 0.86 | |
| G | 0.046 | 0.054 | 1.17 | 1.37 | |
| J | 0.090TYP | | 2.290TYP | | |
| K | 0.098 | 0.114 | 2.50 | 2.90 | |
| L | 0.083 | 0.091 | 2.10 | 2.30 | |
| M | 0.000 | 0.012 | 0.00 | 0.30 | |
| N | 0.043 | 0.059 | 1.10 | 1.50 | |
| Q | 0.018 | 0.024 | 0.45 | 0.60 | |

Ordering Information :

| Device | Packing |
|----------------|------------------|
| Part Number-BP | Bulk; 1 Kpcs/Box |

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

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