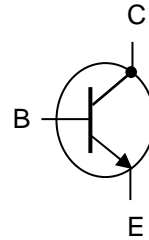


2N5679 – 2N5680

PNP SWITCHING TRANSISTORS

The 2N5679 and 2N5680 are silicon epitaxial planar PNP transistors in jedec TO-39 metal case. They are intended for use as drivers for high power transistors in general purpose, amplifier and switching circuit. The complementary NPN types are the 2N5681 and 2N5682 . Compliance to RoHS.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Ratings | | Value | | Unit |
|-----------|---------------------------|-------------------------------|-------------|--------|------------------|
| | | | 25679 | 2N5680 | |
| V_{CEO} | Collector-Emitter Voltage | $I_B = 0$ | -100 | -120 | V |
| V_{CBO} | Collector-Base Voltage | $I_E = 0$ | -100 | -120 | V |
| V_{EBO} | Emitter-Base Voltage | $I_C = 0$ | -4 | | V |
| I_C | Collector Current | | -1 | | A |
| I_B | Base Current | | -500 | | mA |
| P_D | Total Power Dissipation | $T_{amb} = 25^\circ\text{C}$ | 1 | | W |
| | | $T_{case} = 25^\circ\text{C}$ | 10 | | |
| T_J | Junction Temperature | | 200 | | $^\circ\text{C}$ |
| T_{Stg} | Storage Temperature range | | -65 to +150 | | |

THERMAL CHARACTERISTICS

| Symbol | Ratings | Value | Unit |
|-------------|---|-------|--------------------|
| R_{thJ-a} | Thermal Resistance, Junction to ambient | 175 | $^\circ\text{C/W}$ |
| R_{thJ-c} | Thermal Resistance, Junction to case | 17.5 | $^\circ\text{C/W}$ |

2N5679 – 2N5680

ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

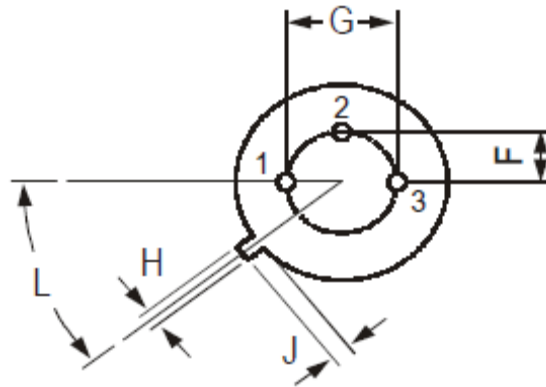
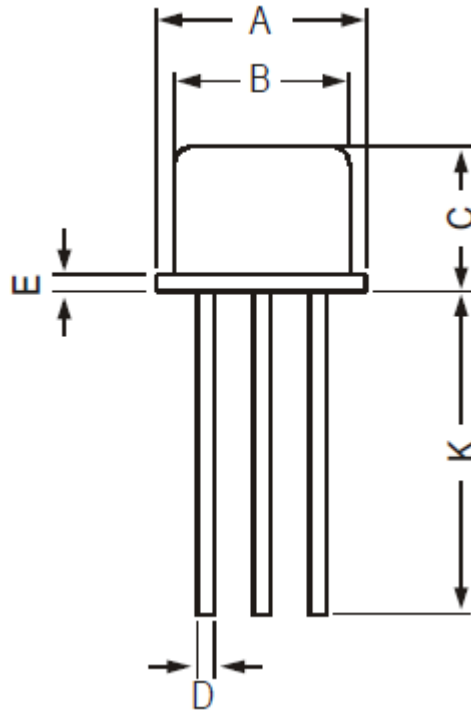
| Symbol | Ratings | Test Condition(s) | Min | Typ | Mx | Unit | | | | | |
|---|--|---|--------|------|----|------|-----|------|---|----|----|
| I_{CBO} | Collector Cutoff Current | V _{CB} = -100 V, I _E = 0 | 2N5679 | - | - | -1 | μA | | | | |
| | | V _{CB} = -120 V, I _E = 0 | 2N5680 | | | | | | | | |
| I_{CEO} | Collector Cutoff Current | V _{CE} = -70 V, I _B = 0 | 2N5679 | - | - | -10 | μA | | | | |
| | | V _{CE} = -80 V, I _B = 0 | 2N5680 | | | | | | | | |
| I_{CEV} | Collector Cutoff Current | V _{CE} = -100 V, V _{BE} = 1.5 V | 2N5679 | - | - | -1 | μA | | | | |
| | | V _{CE} = -120 V, V _{BE} = 1.5 V | 2N5680 | | | | | | | | |
| | | V _{CE} = -100 V, V _{BE} = 1.5 V T _C = 150°C | 2N5679 | | | | | - | - | -1 | mA |
| | | V _{CE} = -120 V, V _{BE} = 1.5 V T _C = 150°C | 2N5680 | | | | | | | | |
| I_{EBO} | Emitter Cutoff Current | V _{BE} = -4.0 V, I _C = 0 | 2N5679 | - | - | -1 | μA | | | | |
| | | | 2N5680 | | | | | | | | |
| V_{CEO(sus)} | Collector Emitter Sustaining voltage (*) | I _C = -10 mA, I _B = 0 | 2N5679 | -100 | - | - | V | | | | |
| | | | 2N5680 | | | | | -120 | | | |
| V_{CE(SAT)} | Collector-Emitter saturation Voltage (*) | I _C = -250 mA I _B = -25 mA | 2N5679 | - | - | -0.6 | V | | | | |
| | | | 2N5680 | | | | | | | | |
| | | I _C = -500 mA I _B = -50 mA | 2N5679 | | | | | - | - | -1 | |
| | | | 2N5680 | | | | | | | | |
| I _C = -1 A I _B = -200 mA | 2N5679 | - | - | -2 | | | | | | | |
| | 2N5680 | | | | | | | | | | |
| V_{BE} | Base-Emitter Voltage (*) | I _C = -250 mA, V _{CE} = -2 V | 2N5679 | - | - | -1 | V | | | | |
| | | | 2N5680 | | | | | | | | |
| h_{FE} | DC Current Gain (*) | I _C = -250 mA, V _{CE} = -2 V | 2N5679 | 40 | - | 150 | V | | | | |
| | | | 2N5680 | | | | | | | | |
| | | I _C = -1 A, V _{CE} = -2 V | 2N5679 | | | | | 5 | - | - | |
| | | | 2N5680 | | | | | | | | |
| f_T | Transition frequency | I _C = -100 mA, V _{CE} = -10 V f = 10 MHz | 2N5679 | 30 | - | - | MHz | | | | |
| | | | 2N5680 | | | | | | | | |
| C_{OB} | Output Capacitance | I _E = 0, V _{CB} = -20 V f = 1MHz | 2N5679 | - | - | 50 | pF | | | | |
| | | | 2N5680 | | | | | | | | |
| h_{fe} | Small Signal Current Gain | I _C = -200 mA, V _{CE} = -1.5 V f = 1 kHz | 2N5679 | 40 | - | - | - | | | | |
| | | | 2N5680 | | | | | | | | |

(*) Pulse Width ≈ 300 μs, Duty Cycle < 2.0%

2N5679 – 2N5680

MECHANICAL DATA CASE TO-39

| DIMENSIONS (mm) | | |
|-----------------|-------|------|
| | min | max |
| A | 8.50 | 9.39 |
| B | 7.74 | 8.50 |
| C | 6.09 | 6.60 |
| D | 0.40 | 0.53 |
| E | - | 0.88 |
| F | 2.41 | 2.66 |
| G | 4.82 | 5.33 |
| H | 0.71 | 0.86 |
| J | 0.73 | 1.02 |
| K | 12.70 | - |
| L | 42° | 48° |



| | |
|---------|-----------|
| Pin 1 : | Emitter |
| Pin 2 : | Base |
| Pin 3 : | Collector |
| Case : | Collector |

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