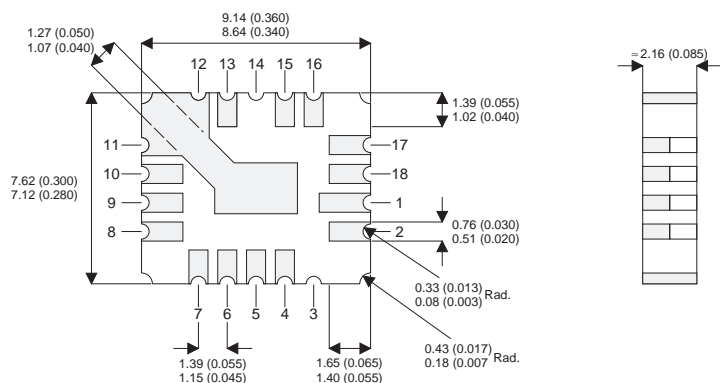


MECHANICAL DATA

Dimensions in mm (inches)

NPN SILICON TRANSISTORS



FEATURES

- Hermetically sealed ceramic surface mount package
- Small footprint
- Simple drive requirements

LCC4 CERAMIC SURFACE MOUNT PACKAGE

Underside View

- Pads 6, 7, 8, 9, 10, 11, 12, 13. **Source**
- Pads 4,5 **Gate**
- Pads 1,2,15,16,17,18 **Drain**
- Pads 3,14 **Not Connected**

ABSOLUTE MAXIMUM RATINGS $T_{CASE} = 25^{\circ}C$ unless otherwise stated

| | | |
|-----------|--|---------------|
| V_{CBO} | Collector – Base Voltage ($I_E = 0$) | 100V |
| V_{CEO} | Collector – Emitter Voltage ($I_B = 0$) | 100V |
| V_{EBO} | Emitter – Base Voltage ($I_C = 0$) | 6V |
| I_C | Collector Current | 5A |
| I_{CM} | Collector Peak Current | 7A |
| I_B | Base Current | 1A |
| P_{tot} | Total Dissipation at $T_{case} \leq 25^{\circ}C$ | 6W |
| | $T_{amb} \leq 25^{\circ}C$ | 1W |
| T_{stg} | Storage Temperature Range | -65 to +200°C |
| T_j | Junction temperature | 200°C |

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

THERMAL DATA

| | | | | |
|----------------|-------------------------------------|-----|------|------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | Max | 29.2 | °C/W |
| $R_{thj-amb}$ | Thermal Resistance Junction-ambient | Max | 175 | °C/W |

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

| Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|---|--------|------|------|---------|
| I_{CBO} | Collector Cut Off Current $I_E = 0$ $V_{CB} = 100V$ | | | 10 | μA |
| I_{CEX} | Collector Cut Off Current $V_{BE} = 1.5V$ $V_{CE} = 90V$ $T_{case} = 150^{\circ}C$ | | | 10 | μA |
| | | | | 1 | mA |
| I_{CEO} | Collector Cut Off Current $I_B = 0$ $V_{CE} = 90V$ | | | 100 | μA |
| $V_{CEO(sus)*}$ | Collector Emitter Sustaining Voltage $I_B = 0$ $I_C = 50mA$ | | | 100 | V |
| $V_{CE(sat)*}$ | Collector Emitter Saturation Voltage $I_C = 2A$ $I_B = 0.2A$ $I_C = 5A$ $I_B = 0.5A$ | | | 0.7 | V |
| | | | | 1.2 | |
| $V_{BE(sat)*}$ | Base Emitter Voltage $I_C = 2A$ $I_B = 0.2A$ $I_C = 5A$ $I_B = 0.5A$ | | | 1.2 | V |
| | | | | 1.8 | |
| h_{FE*} | DC Current Gain $I_C = 0.5A$ $V_{CE} = 2V$ $I_C = 2A$ $V_{CE} = 2V$ $I_C = 5A$ $V_{CE} = 2V$ | 2N5338 | 30 | | — |
| | | 2N5339 | 60 | | |
| | | 2N5338 | 30 | 150 | |
| | | 2N5339 | 60 | 240 | |
| | | 2N5338 | 20 | | |
| | | 2N5339 | 40 | | |
| f_T | Transistion Frequency $I_C = 0.5mA$ $V_{CE} = 10V$ | 30 | | | MHz |
| C_{CBO} | Collector Base Capacitance $I_E = 0$ $V_{CB} = 10V$ $f = 0.1MHz$ | | | 250 | pF |
| t_{on} | Turn-on Time $I_C = 2A$ $V_{CC} = 40V$ $I_{B1} = 0.2mA$ | | | 200 | ns |
| t_s | Storage Time $I_C = 2A$ $V_{CC} = 40V$ | | | 2.5 | μs |
| t_f | Fall Time $I_{B1} = - I_{B2} = 0.2A$ | | | 200 | ns |

* Pulse test $t_p = 300\mu s$, Duty Cycle 1.5%