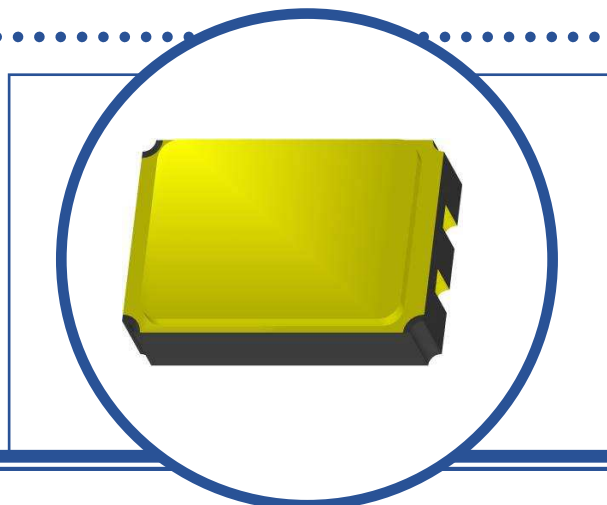


SILICON PLANAR EPITAXIAL PNP TRANSISTOR

2N5415CSM4
2N5416CSM4

- Silicon Planar PNP Transistor
- Hermetic Ceramic Surface Mounted Package.
- Hi-Rel Screening Options Available



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

| | | 2N5415 | 2N5416 |
|-----------|---|--------|---------------|
| V_{CBO} | Collector – Base Voltage | -200V | -350V |
| V_{CEO} | Collector – Emitter Voltage | -200V | -300V |
| V_{EBO} | Emitter – Base Voltage | -4V | -6V |
| I_C | Continuous Collector Current | | 1.0A |
| I_B | Base Current | | 0.5A |
| P_D | Total Power Dissipation at $T_A = 25^\circ\text{C}$ | | 1.0W |
| T_J | Junction Temperature Range | | 175°C |
| T_{stg} | Storage Temperature Range | | -65 to +200°C |

THERMAL PROPERTIES (Each Device)

| Symbols | Parameters | Max. | Units |
|-----------------|---|------|-------|
| $R_{\theta JA}$ | Thermal Resistance, Junction To Ambient | 150 | °C/W |

Semelab Limited 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.



SILICON PLANAR EPITAXIAL PNP TRANSISTOR 2N5415CSM4, 2N5416CSM4

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

| Symbols | Parameters | Test Conditions | Min. | Typ. | Max. | Units |
|---------------------|--------------------------------------|--|------|------|------|---------------|
| $V_{(BR)CEO}^{(1)}$ | Collector-Emitter Breakdown Voltage | $I_C = -10\text{mA}$ 2N5415 | -200 | | | V |
| | | $I_C = -10\text{mA}$ 2N5416 | -300 | | | |
| $V_{(BR)CER}^{(1)}$ | Collector-Emitter Breakdown Voltage | $R_{BE} = 50\Omega$ $I_C = -50\text{mA}$ 2N5416 | -350 | | | |
| $I_{CEO}^{(1)}$ | Collector Cut-off Current | $I_B = 0$ $V_{CE} = -150\text{V}$ | | | -50 | μA |
| $I_{CBO}^{(1)}$ | Collector-Base Cut-off Current | $V_{CB} = -175\text{V}$ 2N5415 | | | -50 | |
| | | $V_{CB} = -280\text{V}$ 2N5416 | | | -50 | |
| $I_{EBO}^{(1)}$ | Emitter Cut-off Current | $V_{EB} = -4\text{V}$ 2N5415 | | | -20 | |
| | | $V_{EB} = -6\text{V}$ 2N5416 | | | -20 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -50\text{mA}$ $I_B = -5\text{mA}$ | | | -0.5 | V |
| $V_{BE}^{(1)}$ | Base-Emitter Voltage | $I_C = -50\text{mA}$ $V_{CE} = -10\text{V}$ | | | -1.5 | |
| $h_{FE}^{(1)}$ | DC Current Gain | $I_C = -50\text{mA}$ $V_{CE} = -10\text{V}$ 2N5415 | 30 | | 150 | - |
| | | $I_C = -50\text{mA}$ $V_{CE} = -10\text{V}$ 2N5416 | 30 | | 120 | |

DYNAMIC CHARACTERISTICS

| Symbols | Parameters | Test Conditions | Min. | Typ. | Max. | Units |
|-----------|---------------------------|--|------|------|------|-------|
| f_T | Transition Frequency | $I_C = -10\text{mA}$ $V_{CE} = -10\text{V}$ $f = 5\text{MHz}$ | 15 | | | MHz |
| C_{obo} | Output Capacitance | $V_{CB} = -10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$ | | | 25 | pF |
| h_{fe} | Small Signal Current Gain | $I_C = -5\text{mA}$ $V_{CE} = -10\text{V}$ $f = 1.0\text{kHz}$ | 25 | | | - |

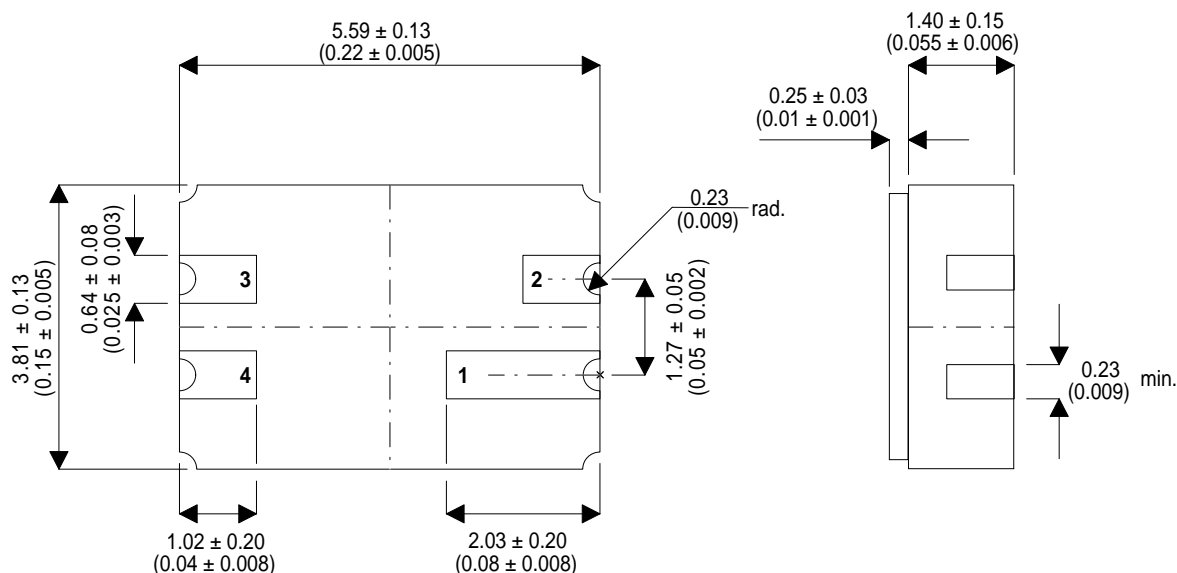
Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

SILICON PLANAR EPITAXIAL PNP TRANSISTOR 2N5415CSM4, 2N5416CSM4

MECHANICAL DATA

Dimensions in mm (inches)



LCC3 (MO-041BA)

Underside View

PAD 1 – Collector PAD 3 – Emitter
PAD 2 – N/C PAD 4 – Base