

# 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

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# SILICON PLANAR EPITAXIAL PNP TRANSISTOR 2N5415CSM4, 2N5416CSM4

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
V <sub>(BR)CEO</sub> <sup>(1)</sup>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -10mA <b>2N5415</b>	-200			V
		I <sub>C</sub> = -10mA <b>2N5416</b>	-300			
V <sub>(BR)CER</sub> <sup>(1)</sup>	Collector-Emitter Breakdown Voltage	R <sub>BE</sub> = 50Ω I <sub>C</sub> = -50mA <b>2N5416</b>	-350			
I <sub>CEO</sub> <sup>(1)</sup>	Collector Cut-off Current	I <sub>B</sub> = 0    V <sub>CE</sub> = -150V			-50	μA
I <sub>CBO</sub> <sup>(1)</sup>	Collector-Base Cut-off Current	V <sub>CB</sub> = -175V <b>2N5415</b>			-50	
		V <sub>CB</sub> = -280V <b>2N5416</b>			-50	
I <sub>EBO</sub> <sup>(1)</sup>	Emitter Cut-off Current	V <sub>EB</sub> = -4V <b>2N5415</b>			-20	
		V <sub>EB</sub> = -6V <b>2N5416</b>			-20	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -50mA    I <sub>B</sub> = -5mA			-0.5	V
V <sub>BE</sub> <sup>(1)</sup>	Base-Emitter Voltage	I <sub>C</sub> = -50mA    V <sub>CE</sub> = -10V			-1.5	
h <sub>FE</sub> <sup>(1)</sup>	DC Current Gain	I <sub>C</sub> = -50mA    V <sub>CE</sub> = -10V <b>2N5415</b>	30		150	-
		I <sub>C</sub> = -50mA    V <sub>CE</sub> = -10V <b>2N5416</b>	30		120	

## DYNAMIC CHARACTERISTICS

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
f <sub>T</sub>	Transition Frequency	I <sub>C</sub> = -10mA    V <sub>CE</sub> = -10V    f = 5MHz	15			MHz
C <sub>obo</sub>	Output Capacitance	V <sub>CB</sub> = -10V    I <sub>E</sub> = 0    f = 1.0MHz			25	pF
h <sub>fe</sub>	Small Signal Current Gain	I <sub>C</sub> = -5mA    V <sub>CE</sub> = -10V    f = 1.0kHz	25			-

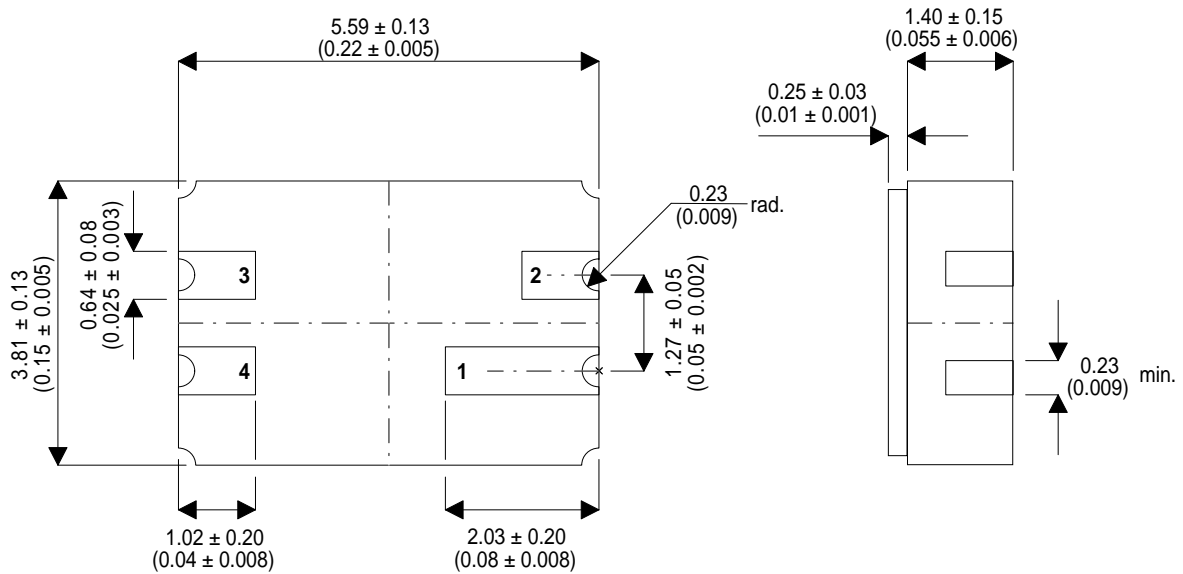
### Notes

(1) Pulse Width ≤ 300μs, δ ≤ 2%

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## MECHANICAL DATA

Dimensions in mm (inches)



### LCC3 (MO-041BA)

Underside View

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