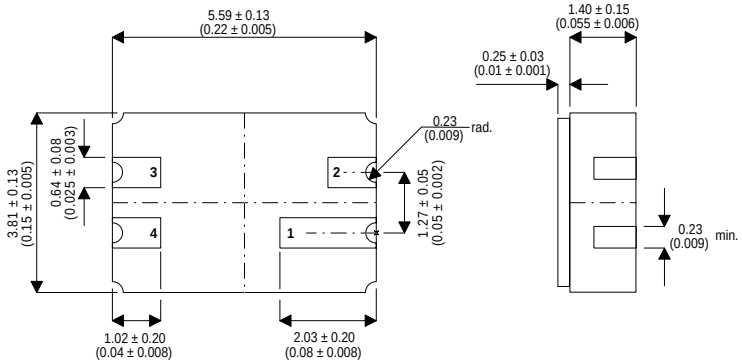
BCX19CSM4

GENERAL PURPOSE NPN TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA
Dimensions in mm (inches)



SOT 23 CERAMIC
(LCC3 PACKAGE)

PAD 1 = Collector
PAD 2 = No Collection
PAD 3 = Emitter
PAD 4 = Base

V_{CEO} = 45V

I_C = 500mA

FEATURES

- **SILICON PLANAR EPITAXIAL NPN TRANSISTOR**
- **HERMETIC CERAMIC SURFACE MOUNT PACKAGE**
- **CECC SCREENING OPTIONS**
- **SPACE QUALITY LEVELS OPTIONS**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector - Base Voltage	50V
V_{CEO}	Collector - Emitter Voltage	45V
V_{EBO}	Emitter - Base Voltage	5V
I_C	Collector Current	500mA
P_D	Total Device Dissipation	350mW
P_D	Derate above 50°C	2.0mW / °C
R_{ja}	Thermal Resistance Junction to Ambient	350°C / W
T_{stg}, T_j	Storage Temperature, Operating Temp Range	–55 to 200°C

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
V_{CES*}	Collector – Emitter Sustaining Voltage	V_{BE} = 0		50			V
V_{CEO*}	Collector – Base Voltage	I_C = 10mA		45			
V_{EBO*}	Emitter – Base Breakdown Voltage	I_E = 10µA	I_C = 0	5			
I_{CBO*}	Collector – Base Cut-off Current	I_E = 0	V_{CB} = 20V			100	nA
		T_C = 150°C				5	µA
I_{EBO*}	Emitter Base Cut-off Current	V_{BE} = 0.5V	I_C = 0			10	µA
$V_{CE(sat)*}$	Collector – Emitter Saturation Voltage	I_C = 500mA	I_B = 50mA			0.62	V
$V_{BE(sat)*}$	Base – Emitter Saturation Voltage	I_C = 500mA	I_B = 50mA			1.2	
h_{FE*}	DC Current Gain	I_C = 100mA	V_{CE} = 1V	100		600	—
		I_C = 300mA	V_{CE} = 1V	70			
		I_C = 500mA	V_{CE} = 1V	40			

* Pulse test t_p = 300µs , $\delta \leq 2\%$

DYNAMIC CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions			Min			
f_T	Transition Frequency	I_C = 10mA	V_{CE} = 5V	f = 35MHz		100		MHz
C_{ob}	Output Capacitance	V_{CB} = 10V	I_E = 0	f = 1.0MHz		8		pF