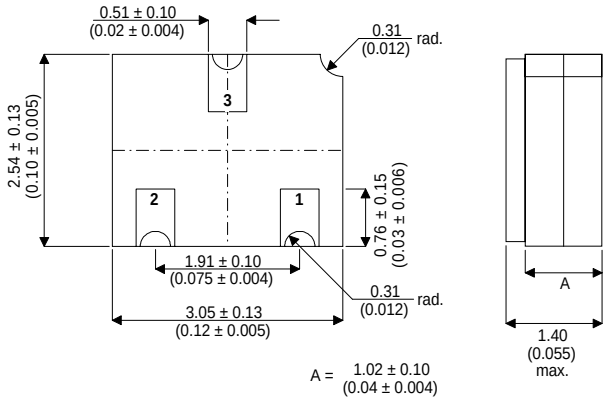
BC394CSM

HIGH VOLTAGE NPN AMPLIFIER TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA
Dimensions in mm (inches)



SOT23 CERAMIC
(LCC1 PACKAGE)

Underside View

PAD 1 – Base PAD 2 – Emitter PAD 3 – Collector

FEATURES

- **SILICON PLANAR EPITAXIAL NPN TRANSISTOR**
- **HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)**
- **CECC SCREENING OPTIONS**
- **SPACE QUALITY LEVELS OPTIONS**
- **HIGH VOLTAGE AMPLIFIER**

APPLICATIONS:

Hermetically sealed surface mount version of the popular BC394 for high reliability / space applications requiring small size and low weight devices.

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

V_{CBO}	Collector – Base Voltage	180V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	180V
V_{EBO}	Emitter – Base Voltage (I_B = 0)	6V
I_C	Collector Current	100mA
P_D	Total Device Dissipation	350mW
P_D	Derate above 50°C	2.0mW / °C
R_{ja}	Thermal Resistance Junction to Ambient	440°C/W
T_{stg}	Storage Temperature	–55 to 200°C

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SEME LAB

BC394CSM

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	I_C = 100µA		180			V
$V_{(BR)CEO*}$	Collector - Emitter Breakdown Voltage	I_C = 10mA	I_B = 0	180			V
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 100µA	I_C = 0	6			V
I_{CBO}	Collector Cut-off Current	V_{CBO} = 100V				50	nA
		I_E = 0	T_A = 150°C			50	µA
$V_{CE(sat)*}$	Collector – Emitter Saturation Voltage	I_C = 10mA	I_B = 1mA		200	300	mV
		I_C = 50mA	I_B = 5mA		400		
$V_{BE(sat)*}$	Base – Emitter Saturation Voltage	I_C = 10mA	I_B = 1mA		750	900	mV
		I_C = 50mA	I_B = 5mA		850		
h_{FE*}	DC Current Gain	I_C = 1mA	V_{CE} = 10V		85		—
		I_C = 10mA	V_{CE} = 10V	30	100		
f_T	Transition Frequency	I_C = 10mA	V_{CE} = 10V	50	95		MHz
C_{CBO}	Capacitor- Base Capacitance	V_{CB} = 10V f = 1.0MHz	I_E = 0		5		pF

* Pulse Test: t_p = 300µs, $\delta \leq 1\%$.