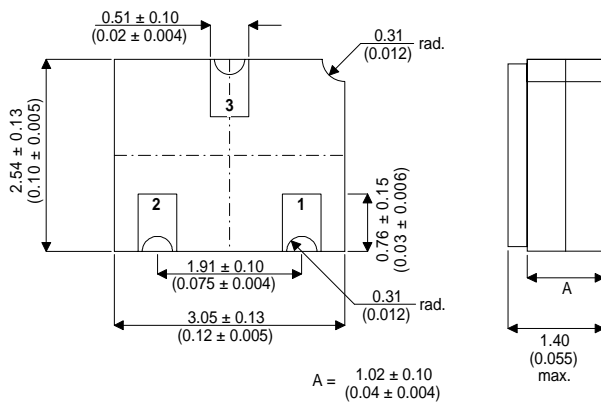


HIGH VOLTAGE NPN AMPLIFIER TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

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 ($T_{case} = 25^{\circ}C$ 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

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

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

* Pulse Test: $t_p = 300\mu\text{s}$, $\delta \leq 1\%$.