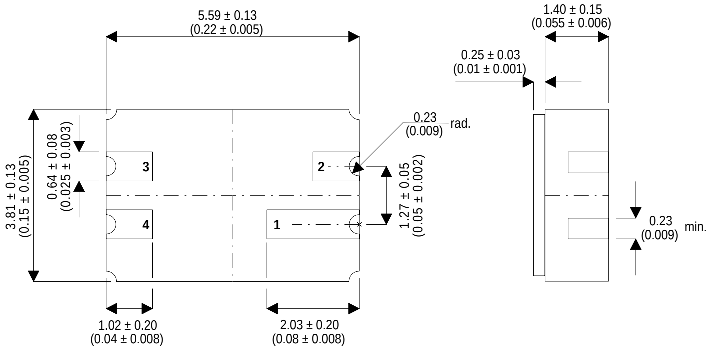
2N3439CSM4

HIGH VOLTAGE, MEDIUM POWER, NPN TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA
Dimensions in mm (inches)



LCC3 PACKAGE
Underside View

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

FEATURES

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

APPLICATIONS:

Hermetically sealed surface mount version of the popular 2N3439 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	450V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	350V
V_{EBO}	Emitter – Base Voltage (I_B = 0)	7V
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}	Storage Temperature	–55 to 200°C

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

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$*	Collector – Emitter Sustaining Voltage	I_C = 50mA		350			V
I_{CEX}*	Collector Cut-off Current (I_C = 0)	I_B = 0	V_{CE} = 450V			500	µA
I_{CBO}*	Collector – Base Cut-off Current	I_E = 0	V_{CB} = 300V			20	µA
		T_C = 125°C				10	µA
I_{EBO}*	Emitter Cut-off Current (I_C = 0)	I_C = 0	V_{EB} = 6V (off)			20	µA
$V_{CE(sat)}$*	Collector – Emitter Saturation Voltage	I_C = 50mA	I_B = 4mA			0.5	V
$V_{BE(sat)}$*	Base – Emitter Saturation Voltage	I_C = 50mA	I_B = 4mA			1.3	
h_{FE}*	DC Current Gain	I_C = 20mA	I_C = 10mA	40		160	—

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

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

Parameter		Test Conditions			Min.	Typ.	Max.	Unit
f_T	Transition Frequency	I_C = 10mA	V_{CE} = 10V	f = 5MHz	15			MHz
C_{ob}	Output Capacitance	V_{CB} = 10V	I_E = 0	f = 1.0MHz			10	pF
h_{fe}	Small Signal Current Gain	I_C = 5mA	V_{CE} = 10V	f = 1kHz	25			