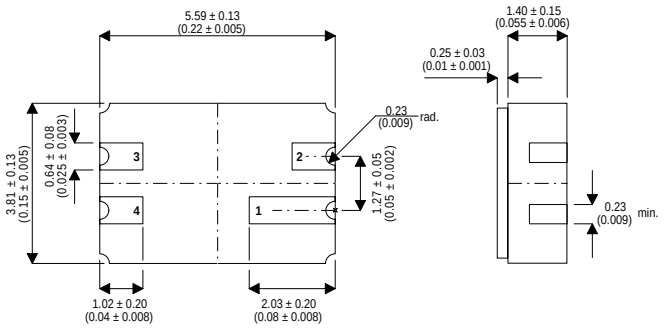
2N3439CSM4R
2N3440CSM4R

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 3 – N/C
PAD 2 – Emitter	PAD 4 – Base

FEATURES

- **Hermetic Ceramic 4 pin Surface Mount Package - LCC3**
- **High Voltage Small Signal Type**
- **Full Screening Options Available**
- **“R” Denotes Reverse Pinning**

APPLICATIONS:

The 2N3439CSM4 and 2N3440CSM4 are high voltage silicon epitaxial planar transistors mounted in the popular 4 pin ceramic surface mount hermetically sealed package. These products are specifically intended for use in High reliability systems and can be ordered with a full range of screening options from standard Military (equivalent to CECC Full Assessment Level) through all options up to full space flight level.

ABSOLUTE MAXIMUM RATINGS		2N3439CSM4	2N3440CSM4
V_{CBO}	Collector – Base Voltage (I_E = 0)	450V	300V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	350V	250V
V_{EBO}	Emitter – Base Voltage (I_B = 0)	7V	7V
I_C	Collector Current.	1A	1A
I_B	Base Current.	0.5A	0.5A
P_{tot}	Total Power Dissipation at T_{amb} = 25°C with product mounted on a suitable PCB to provide a heat path.	0.5W	0.5W
T_{stg}	Storage Temperature.	–65 to +200°C	
T_j	Maximum Junction Temperature.	+200°C	

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

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$*	Collector – Emitter Sustaining Voltage (I_B = 0)	I_C = 50mA	2N3439CSM4R	350			V
			2N3440CSM4R	250			
I_{CEX}*	Collector Cut-off Current (V_{BE} = –1.5V)		2N3439CSM4R			500	µA
			2N3440CSM4R			500	
I_{CBO}*	Collector – Base Cut-off Current (I_E = 0)	V_{CB} = 360V	2N3439CSM4R			20	µA
		V_{CB} = 250V	2N3440CSM4R			20	
I_{CEO}*	Collector – Cut-off Current (I_B = 0)	V_{CE} = 300V	2N3439CSM4R			20	µA
		V_{CE} = 200V	2N3440CSM4R			50	
I_{EBO}*	Emitter Cut-off Current (I_C = 0)	V_{EB} = 6V				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	V_{CE} = 10V	40			—
		2N3439CSM4R only					
		I_C = 20mA	V_{CE} = 10V	30			

* 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		f = 10MHz			10	pF
h_{fe}	Small Signal Current Gain	I_C = 5mA	V_{CE} = 10V	f = 1kHz	25			