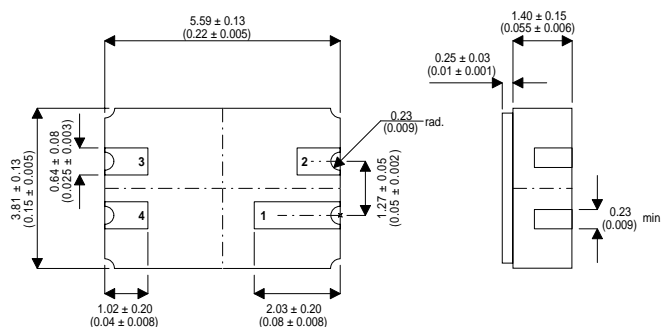


**HIGH VOLTAGE, MEDIUM POWER, NPN
TRANSISTOR IN A
HERMETICALLY SEALED
CERAMIC SURFACE MOUNT PACKAGE
FOR HIGH RELIABILITY APPLICATIONS**

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 $T_{amb} = 25^\circ\text{C}$ 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	

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{\text{CEO(sus)}}$ * Collector – Emitter Sustaining Voltage ($I_{\text{B}} = 0$)	$I_{\text{C}} = 50\text{mA}$ 2N3439CSM4R	350			V
	2N3440CSM4R	250			
I_{CEX} * Collector Cut-off Current ($V_{\text{BE}} = -1.5\text{V}$)	2N3439CSM4R			500	μA
	2N3440CSM4R			500	
I_{CBO} * Collector – Base Cut-off Current ($I_{\text{E}} = 0$)	$V_{\text{CB}} = 360\text{V}$ 2N3439CSM4R			20	μA
	$V_{\text{CB}} = 250\text{V}$ 2N3440CSM4R			20	
I_{CEO} * Collector – Cut-off Current ($I_{\text{B}} = 0$)	$V_{\text{CE}} = 300\text{V}$ 2N3439CSM4R			20	μA
	$V_{\text{CE}} = 200\text{V}$ 2N3440CSM4R			50	
I_{EBO} * Emitter Cut-off Current ($I_{\text{C}} = 0$)	$V_{\text{EB}} = 6\text{V}$			20	μA
$V_{\text{CE(sat)}}$ * Collector – Emitter Saturation Voltage	$I_{\text{C}} = 50\text{mA}$ $I_{\text{B}} = 4\text{mA}$			0.5	V
$V_{\text{BE(sat)}}$ * Base – Emitter Saturation Voltage	$I_{\text{C}} = 50\text{mA}$ $I_{\text{B}} = 4\text{mA}$			1.3	
h_{FE} * DC Current Gain	$I_{\text{C}} = 20\text{mA}$ $V_{\text{CE}} = 10\text{V}$ 2N3439CSM4R only	40			—
	$I_{\text{C}} = 20\text{mA}$ $V_{\text{CE}} = 10\text{V}$	30			

* Pulse test $t_{\text{p}} = 300\mu\text{s}$, $\delta \leq 2\%$

DYNAMIC CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
f_{T}	$I_{\text{C}} = 10\text{mA}$ $V_{\text{CE}} = 10\text{V}$ $f = 5\text{MHz}$	15			MHz
C_{ob}	$V_{\text{CB}} = 10\text{V}$ $f = 10\text{MHz}$			10	pF
h_{fe}	$I_{\text{C}} = 5\text{mA}$ $V_{\text{CE}} = 10\text{V}$ $f = 1\text{kHz}$	25			