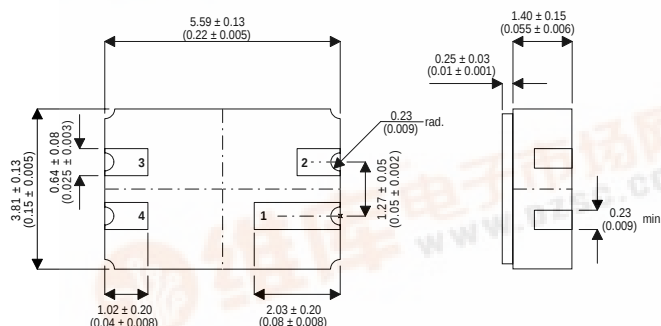


2N3439CSM4R
2N3440CSM4R

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

MECHANICAL DATA

Dimensions in mm (inches)



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.

LCC3 PACKAGE Underside View

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

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
	Storage Temperature.	-65 to +200°C	
	Maximum Junction Temperature.	+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 _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 2N3439CSM4R only	40			—
	I _C = 20mA V _{CE} = 10V	30			

* Pulse test t_p = 300μs , δ ≤ 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			