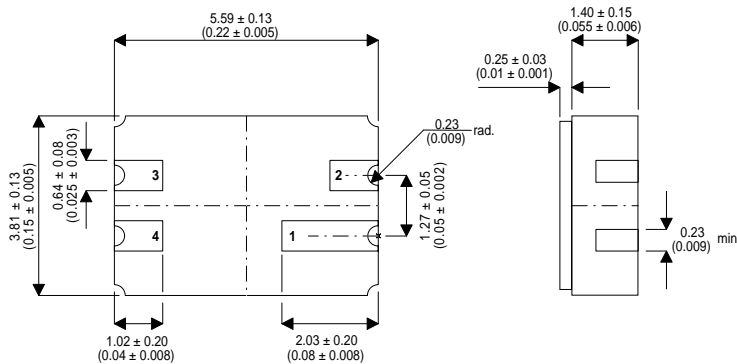


**GENERAL PURPOSE NPN TRANSISTOR  
IN A HERMETICALLY SEALED  
CERAMIC SURFACE MOUNT PACKAGE  
FOR HIGH RELIABILITY APPLICATIONS**

**MECHANICAL DATA**

Dimensions in mm (inches)



**SOT 23 CERAMIC  
(LCC3 PACKAGE)**

PAD 1 = Collector      PAD 3 = Emitter  
PAD 2 = No Collection      PAD 4 = Base

$V_{CEO} = 45V$

$I_C = 500mA$

**FEATURES**

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

**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^\circ C$  unless otherwise stated)

$V_{CBO}$	Collector - Base Voltage	50V
$V_{CEO}$	Collector - Emitter Voltage	45V
$V_{EBO}$	Emitter - Base Voltage	5V
$I_C$	Collector Current	500mA
$P_D$	Total Device Dissipation	350mW
$P_D$	Derate above $50^\circ C$	2.0mW / $^\circ C$
$R_{ja}$	Thermal Resistance Junction to Ambient	350 $^\circ C$ / W
$T_{stg}, T_j$	Storage Temperature, Operating Temp Range	-55 to 200 $^\circ C$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CES}^*$	Collector – Emitter Sustaining Voltage	$V_{BE} = 0$	50		V
$V_{CEO}^*$	Collector – Base Voltage	$I_C = 10mA$	45		
$V_{EBO}^*$	Emitter – Base Breakdown Voltage	$I_E = 10\mu A$ $I_C = 0$	5		
$I_{CBO}^*$	Collector – Base Cut-off Current	$I_E = 0$ $V_{CB} = 20V$		100	nA
		$T_C = 150^{\circ}C$		5	$\mu A$
$I_{EBO}^*$	Emitter Base Cut-off Current	$V_{BE} = 0.5V$ $I_C = 0$		10	$\mu A$
$V_{CE(sat)}^*$	Collector – Emitter Saturation Voltage	$I_C = 500mA$ $I_B = 50mA$		0.62	V
$V_{BE(sat)}^*$	Base – Emitter Saturation Voltage	$I_C = 500mA$ $I_B = 50mA$		1.2	
$h_{FE}^*$	DC Current Gain	$I_C = 100mA$ $V_{CE} = 1V$	100	600	—
		$I_C = 300mA$ $V_{CE} = 1V$	70		
		$I_C = 500mA$ $V_{CE} = 1V$	40		

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

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

Parameter	Test Conditions	Min				
$f_T$	Transition Frequency	$I_C = 10mA$ $V_{CE} = 5V$ $f = 35MHz$		100		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 10V$ $I_E = 0$ $f = 1.0MHz$		8		pF