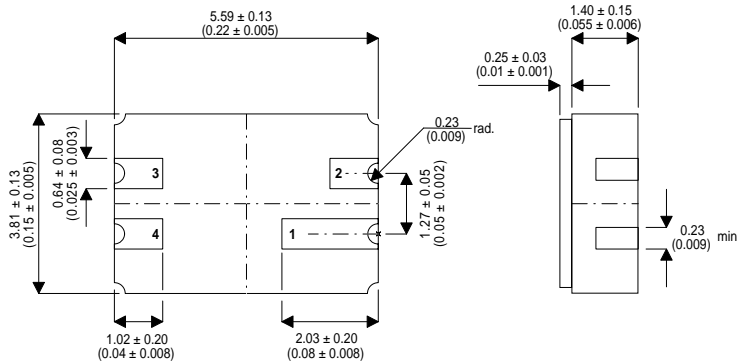


**GENERAL PURPOSE NPN TRANSISTOR
IN A HERMETICALLY SEALED
CERAMIC SURFACE MOUNT PACKAGE
FOR HIGH RELIABILITY APPLICATIONS**

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	μA
I_{EBO}^*	Emitter Base Cut-off Current	$V_{BE} = 0.5V$ $I_C = 0$		10	μA
$V_{CE(sat)}^*$	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