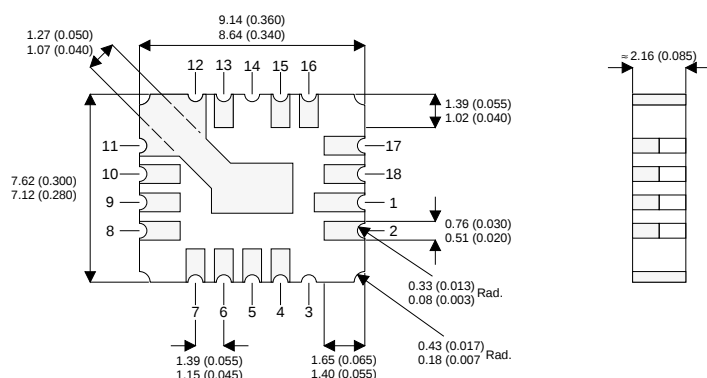


NPN TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA

Dimensions in mm (inches)



FEATURES

- SILICON PLANAR NPN TRANSISTOR
- HERMETIC SURFACE MOUNT PACKAGE
- CECC SCREENING OPTIONS
- SPACE QUALITY LEVEL OPTIONS

LCC4 PACKAGE Underside View

BASE	4,5
COLLECTOR	1,2,15,16,17,18
EMITTER	6,7,8,9,10,11,12,13

ABSOLUTE MAXIMUM RATINGS PER SIDE ($T_C = 25^\circ\text{C}$ unless otherwise stated)

V_{CBO}	Collector – Base Voltage	120V
V_{CEO}	Collector – Emitter Voltage	100V
V_{EBO}	Emitter – Base Voltage	5V
I_C	Continuous Collector Current	2A
P_{TOT}	Power Dissipation @ $T_{amb} = 25^\circ\text{C}$	2W
	Derate above 25°C	16mW/ $^\circ\text{C}$
$T_j T_{STG}$	Operating And Storage Temperature Range	-55 to 150°C
$R_{\theta JA}$	Junction - Ambient Thermal Resistance	62.5 $^\circ\text{C/W}$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CBO}$ Collector – Base Breakdown Voltage	$I_C = 100\mu\text{A}$	120			V
$V_{(BR)CEO}$ Collector – Emitter Breakdown Voltage	$I_C = 10\text{mA}$	100			V
$V_{(BR)EBO}$ Emitter – Base Breakdown Voltage	$I_E = 100\mu\text{A}$	5			V
I_{CBO} Collector – Cut-off Current	$V_{CB} = 100\text{V}$			0.1	μA
	$T_C = 100^\circ\text{C}$			10	
I_{EBO} Emitter Cut-off Current	$V_{EB} = 4\text{V}$			0.1	μA
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_C = 1\text{A}$ $I_B = 100\text{mA}^*$		0.13	0.3	V
	$I_C = 2\text{A}$ $I_B = 200\text{mA}^*$		0.23	0.5	
$V_{BE(sat)}$ Base – Emitter Saturation Voltage	$I_C = 1\text{A}$ $I_B = 100\text{mA}^*$		0.9	1.25	V
$V_{BE(on)}$ Base – Emitter Turn-On Voltage	$I_C = 1\text{A}$ $V_{CE} = 2\text{V}^*$		0.8	1.0	V
H_{FE} DC Current Gain	$I_C = 50\text{mA}$ $V_{CE} = 2\text{V}^*$	70	200		—
	$I_C = 500\text{mA}$ $V_{CE} = 2\text{V}^*$	100	200	300	
	$I_C = 1\text{A}$ $V_{CE} = 2\text{V}^*$	55	110		
	$I_C = 2\text{A}$ $V_{CE} = 2\text{V}^*$	25	55		

* Pulse test $t_p = 300\text{ms}$, $\delta \leq 2\%$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
f_T Transition Frequency	$I_C = 100\text{mA}$ $V_{CE} = 5\text{V}$ $f = 100\text{MHz}$	140	175		MHz
C_{obo} Output Capacitance	$V_{CB} = 10\text{V}$ $f = 1.0\text{MHz}$			30	pF
T_{on} Switching Times	$I_C = 500\text{mA}$ $V_{CC} = 10\text{V}$		80		ns
T_{off} Switching Times	$I_{B1} = I_{B2} = 50\text{mA}$		1200		