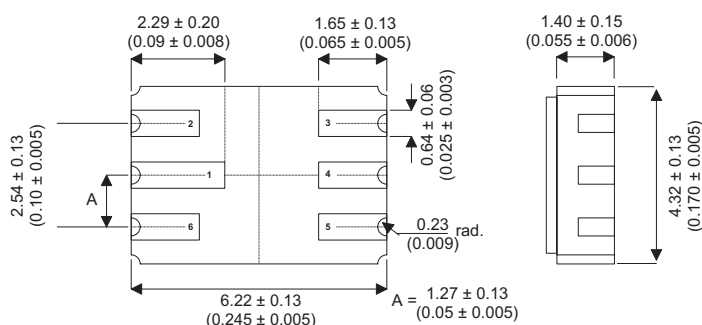


MECHANICAL DATA

Dimensions in mm (inches)



LCC2 PACKAGE

Underside View

PAD 1 – Collector 1

PAD 4 – Collector 2

PAD 2 – Base 1

PAD 5 – Emitter 2

PAD 3 – Base 2

PAD 6 – Emitter 1

DUAL NPN PLANAR TRANSISTORS IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

FEATURES

- Hermetic Ceramic Surface Mount Package
- CECC Screening Options
- Space Quality Levels Options

ABSOLUTE MAXIMUM RATINGS

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

		EACH SIDE	TOTAL DEVICE
V_{CBO}	Collector – Base Voltage	45V	
V_{CEO}	Collector – Emitter Voltage ¹	45V	
V_{EBO}	Emitter – Base Voltage	6V	
I_C	Continuous Collector Current	30	
P_D	Total Device Dissipation	300mW	500mW
	$T_{AMB} = 25^{\circ}\text{C}$	1.72mW / $^{\circ}\text{C}$	2.86W / $^{\circ}\text{C}$
	Derate above 25°C		
T_{STG}	Storage Temperature Range	–65 to 200°C	
T_L	Lead temperature (Soldering, 10 sec.)	300 $^{\circ}\text{C}$	

NOTES

1. Base – Emitter Diode Open Circuited.

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Issue 1

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

Parameter	Test Conditions ¹	Min.	Typ.	Max.	Unit
INDIVIDUAL TRANSISTOR CHARACTERISTICS					
$V_{(BR)CBO}$ Collector – Base Breakdown Voltage	$I_C = 10\text{mA}$ $I_E = 0$	45			V
$V_{(BR)CEO^*}$ Collector – Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	45			
$V_{(BR)EBO}$ Emitter – Base Breakdown Voltage	$I_E = 10\text{mA}$ $I_C = 0$	6			
I_{CBO} Collector Cut-off Current	$V_{CB} = 45\text{V}$ $I_E = 0$ $T_A = 150^{\circ}\text{C}$			10	nA
				10	μA
I_{CEO} Collector Cut-off Current	$V_{CE} = 5\text{V}$ $I_B = 0$			2	nA
I_{EBO} Emitter Cut-off Current	$V_{EB} = 5\text{V}$ $I_C = 0$			2	
h_{FE} DC Current Gain	$V_{CE} = 5\text{V}$ $I_C = 10\text{mA}$ $T_A = -55^{\circ}\text{C}$	150		600	—
		30			
	$V_{CE} = 5\text{V}$ $I_C = 100\text{mA}$	225			
	$V_{CE} = 5\text{V}$ $I_C = 1\text{mA}$	300			
V_{BE} Base – Emitter Voltage	$V_{CE} = 5\text{V}$ $I_C = 100\text{mA}$			0.70	V
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_B = 100\text{mA}$ $I_C = 1\text{mA}$			0.35	
h_{ib} Small Signal Common – Base Input Impedance	$V_{CB} = 5\text{V}$ $I_C = 1\text{mA}$ $f = 1\text{kHz}$	25		32	Ω
h_{ob} Small Signal Common – Base Output Admittance	$V_{CB} = 5\text{V}$ $I_C = 1\text{mA}$ $f = 1\text{kHz}$			1	μmho
$ h_{fe} $ Small Signal Common – Base Current Gain	$V_{CE} = 5\text{V}$ $I_C = 500\text{mA}$ $f = 20\text{MHz}$	3			—
C_{obo} Common – Base Open Circuit Output Capacitance	$V_{CB} = 5\text{V}$ $I_E = 0$ $f = 140\text{kHz to } 1\text{MHz}$			6	pF
TRANSISTOR MATCHING CHARACTERISTICS					
$\frac{h_{FE1}}{h_{FE2}}$ Static Forward Current Gain Balance Ratio	$V_{CE} = 5\text{V}$ $I_C = 100\mu\text{A}$ See Note 2.	0.9		1	—
$ V_{BE1} - V_{BE2} $ Base – Emitter Voltage Differential	$V_{CE} = 5\text{V}$ $I_C = 100\mu\text{A}$			3	mV
	$V_{CE} = 5\text{V}$ $I_C = 10\mu\text{A to } 1\text{mA}$			5	
$ D(V_{BE1} - V_{BE2})/DT_A $ Base – Emitter Voltage Differential Change With Temperature	$V_{CE} = 5\text{V}$ $I_C = 100\mu\text{A}$ $T_{A1} = 25^{\circ}\text{C}$ $T_{A2} = -55^{\circ}\text{C}$			0.8	mV
	$V_{CE} = 5\text{V}$ $I_C = 100\mu\text{A}$ $T_{A1} = 25^{\circ}\text{C}$ $T_{A2} = 125^{\circ}\text{C}$			1	

* Pulse Test: $t_p = 300\mu\text{s}$, $\delta \leq 1\%$.

NOTES

- 1) Terminals not under test are open circuited under all test conditions.
- 2) The lower of the two readings is taken as h_{FE1} .

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