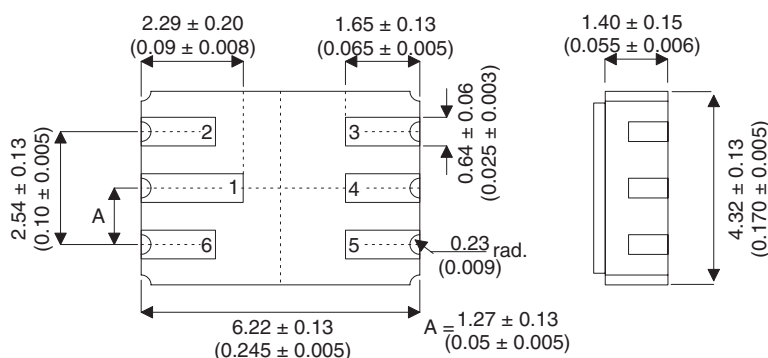


DUAL HIGH SPEED, MEDIUM POWER PNP SWITCHING TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

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

FEATURES

- DUAL SILICON PLANAR EPITAXIAL PNP TRANSISTORS
- HERMETIC CERAMIC SURFACE MOUNT PACKAGE
- CECC SCREENING OPTIONS
- SPACE QUALITY LEVELS OPTIONS
- HIGH SPEED SATURATED SWITCHING

APPLICATIONS:

Hermetically sealed dual surface mount version of the popular 2N2907A for high reliability / space applications requiring small size and low weight devices.

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

PER SIDE		
V_{CBO}	Collector - Base Voltage	-60V
V_{CEO}	Collector - Emitter Voltage	-60V
V_{EBO}	Emitter - Base Voltage	-5V
I_C	Collector Current	-600mA
TOTAL DEVICE		
P_D	Total Device Dissipation	350mW
P_D	Derate above 50°C	2.0mW / $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	130 $^\circ\text{C}$ / W
$R_{\theta JC}$	Thermal Resistance Junction to Case	60 $^\circ\text{C}$ / W
T_{STG}, T_j	Storage Temperature, Operating temp range	-55 to 200 $^\circ\text{C}$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(BR)}^*$ Collector – Emitter Breakdown Voltage	$I_C = -10\text{mA}$	-60			V
$V_{CBO(BR)}^*$ Collector – Base Breakdown Voltage	$I_C = -10\mu\text{A}$	-60			V
$V_{(BR)EBO}^*$ Emitter – Base Breakdown Voltage	$I_E = -10\mu\text{A}$ $I_C = 0$	-5			V
I_{CEX}^* Collector Cut-off Current	$V_{CE} = -30\text{V}$ $V_{BE} = -0.5\text{V}$			-50	nA
I_{CBO}^* Collector – Base Cut-off Current	$I_E = 0$ $V_{CB} = -50\text{V}$			-0.01	μA
	$T_C = 125^\circ\text{C}$			-10	
I_{BEO} Base Cut-off Current	$V_{CE} = -30\text{V}$ $V_{BE} = -0.5\text{V}$			-50	nA
$V_{CE(sat)}^*$ Collector – Emitter Saturation Voltage	$I_C = -150\text{mA}$ $I_B = -15\text{mA}$			-0.4	V
	$I_C = -500\text{mA}$ $I_B = -50\text{mA}$			-1.6	
$V_{BE(sat)}^*$ Base – Emitter Saturation Voltage	$I_C = -150\text{mA}$ $I_B = -15\text{mA}$			-1.3	V
	$I_C = -500\text{mA}$ $I_B = -50\text{mA}$			-2.6	
h_{FE}^* DC Current Gain	$I_C = -0.1\text{mA}$ $V_{CE} = -10\text{V}$	75			—
	$I_C = -1.0\text{mA}$ $V_{CE} = -10\text{V}$	100			
	$I_C = -10\text{mA}$ $V_{CE} = -10\text{V}$	100			
	$I_C = -150\text{mA}$ $V_{CE} = -10\text{V}$	100		300	
	$I_C = -500\text{mA}$ $V_{CE} = -10\text{V}$	50			

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

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
f_T Transition Frequency	$I_C = -50\text{mA}$ $V_{CE} = -20\text{V}$ $f = 100\text{MHz}$	200			MHz
C_{ob} Output Capacitance	$V_{CB} = -10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			8	pF
C_{ib} Input Capacitance	$V_{BE} = -2\text{V}$ $I_C = 0$ $f = 1.0\text{MHz}$			30	pF

SWITCHING CHARACTERISTICS PER SIDE (RESISTIVE LOAD)

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
t_{on} Turn-on Time	$V_{CC} = -30\text{V}$ $I_C = -150\text{mA}$ $I_{B1} = -15\text{mA}$			45	ns
t_{off} Turn-off Time				300	ns

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