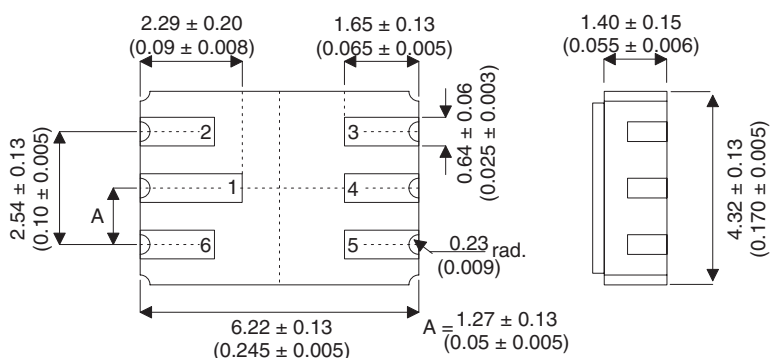


## DUAL HIGH SPEED, MEDIUM POWER PNP SWITCHING TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

**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 $50^\circ\text{C}$	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 $^\circ\text{C}$

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

**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	$\mu\text{A}$
	$T_C = 125^\circ\text{C}$			-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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