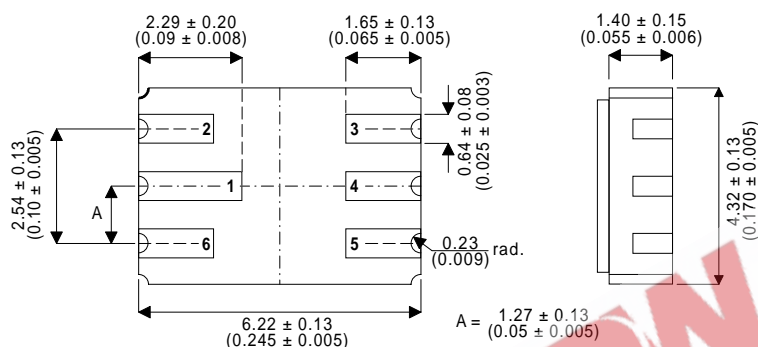


## DUAL HIGH SPEED, MEDIUM POWER PNP SWITCHING TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

**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<sub>C</sub> = 25°C unless otherwise stated)

PER SIDE		
V <sub>CBO</sub>	Collector - Base Voltage	-60V
V <sub>CEO</sub>	Collector - Emitter Voltage	-60V
V <sub>EBO</sub>	Emitter - Base Voltage	-5V
I <sub>C</sub>	Collector Current	600mA
P <sub>D</sub>	Total Device Dissipation	350mW
P <sub>D</sub>	Derate above 50°C	2.0mW / °C
TOTAL DEVICE		
R <sub>θJA</sub>	Thermal Resistance Junction to Ambient	130°C / W
R <sub>θJC</sub>	Thermal Resistance Junction to Case	60°C / W
T <sub>STG</sub> , T <sub>j</sub>	Storage Temperature, Operating temp range	-55 to 200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{\text{CEO(sus)}}^*$ Collector – Emitter Sustaining Voltage	$I_C = 10\text{mA}$	-60			V
$V_{(\text{BR})\text{CBO}}^*$ Collector – Base Breakdown Voltage	$I_C = 10\mu\text{A}$	-60			V
$V_{(\text{BR})\text{EBO}}^*$ Emitter – Base Breakdown Voltage	$I_E = 10\mu\text{A}$ $I_C = 0$	-5			V
$I_{\text{CEX}}^*$ Collector Cut-off Current	$V_{\text{CE}} = 30\text{V}$ $V_{\text{BE}} = 0.5\text{V}$			50	nA
$I_{\text{CBO}}^*$ Collector – Base Cut-off Current	$I_E = 0$ $V_{\text{CB}} = 50\text{V}$ $T_C = 125^\circ\text{C}$			0.01 10	$\mu\text{A}$
$I_{\text{BEO}}$ Base Cut-off Current	$V_{\text{CE}} = 30\text{V}$ $V_{\text{BE}} = 0.5\text{V}$			50	nA
$V_{\text{CE(sat)}}^*$ Collector – Emitter Saturation Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$ $I_C = 500\text{mA}$ $I_B = 50\text{mA}$			-0.4 -1.6	V
$V_{\text{BE(sat)}}^*$ Base – Emitter Saturation Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$ $I_C = 500\text{mA}$ $I_B = 50\text{mA}$			-1.3 -2.6	V
$h_{\text{FE}}^*$ DC Current Gain	$I_C = 0.1\text{mA}$ $V_{\text{CE}} = 10\text{V}$ $I_C = 1\text{mA}$ $V_{\text{CE}} = 10\text{V}$ $I_C = 10\text{mA}$ $V_{\text{CE}} = 10\text{V}$ $I_C = 150\text{mA}$ $V_{\text{CE}} = 10\text{V}$ $I_C = 500\text{mA}$ $V_{\text{CE}} = 10\text{V}$	75 100 100 100 50			— 300

\* 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	$I_C = 50\text{mA}$ $V_{\text{CE}} = 20\text{V}$ $f = 100\text{MHz}$	200			MHz
$C_{\text{ob}}$ Output Capacitance	$V_{\text{CB}} = 10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			8	pF
$C_{\text{ib}}$ Input Capacitance	$V_{\text{BE}} = 2\text{V}$ $I_C = 0$ $f = 1.0\text{MHz}$			30	pF

**SWITCHING CHARACTERISTICS PER SIDE (RESISTIVE LOAD)**

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$t_{\text{on}}$ Turn-on Time	$V_{\text{CC}} = 30\text{V}$		26	45	ns
$t_d$ Delay Time	$I_C = 150\text{mA}$		6.0	10	
$t_r$ Rise Time	$I_{\text{B1}} = 15\text{mA}$		20	40	
$t_{\text{off}}$ Turn-off Time	$V_{\text{CC}} = 6\text{V}$		70	100	ns
$t_s$ Storage Time	$I_C = 150\text{mA}$		50	80	
$t_f$ Fall Time	$I_{\text{B1}} = I_{\text{B2}} = 15\text{mA}$		20	30	