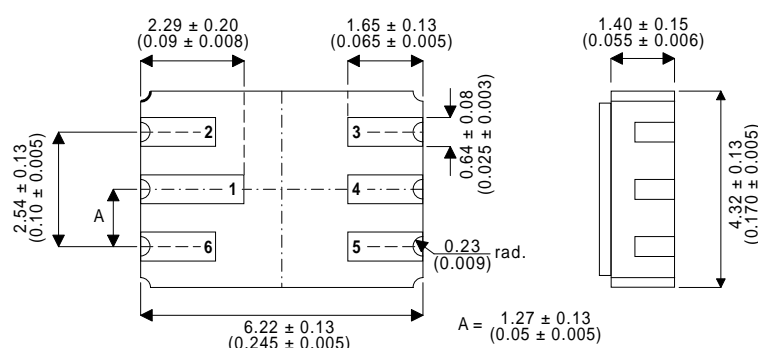


DUAL HIGH SPEED, MEDIUM POWER PNP SWITCHING TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

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
P_D	Total Device Dissipation	350mW
P_D	Derate above 50°C	2.0mW / °C
TOTAL DEVICE		
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	130°C / W
$R_{\theta JC}$	Thermal Resistance Junction to Case	60°C / W
T_{STG}, T_j	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
$V_{CEO(sus)}^*$ Collector – Emitter Sustaining Voltage	$I_C = 10\text{mA}$	-60			V
$V_{(BR)CBO}^*$ 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	$I_E = 0$ $V_{CB} = 50\text{V}$ $T_C = 125^\circ\text{C}$			0.01 10	μA
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	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$ $I_C = 500\text{mA}$ $I_B = 50\text{mA}$			-0.4 -1.6	V
$V_{BE(sat)}^*$ 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_{FE}^* DC Current Gain	$I_C = 0.1\text{mA}$ $V_{CE} = 10\text{V}$ $I_C = 1\text{mA}$ $V_{CE} = 10\text{V}$ $I_C = 10\text{mA}$ $V_{CE} = 10\text{V}$ $I_C = 150\text{mA}$ $V_{CE} = 10\text{V}$ $I_C = 500\text{mA}$ $V_{CE} = 10\text{V}$	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	$I_C = 50\text{mA}$ $V_{CE} = 20\text{V}$ $f = 100\text{MHz}$	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	$V_{CC} = 30\text{V}$		26	45	ns
t_d Delay Time	$I_C = 150\text{mA}$		6.0	10	
t_r Rise Time	$I_{B1} = 15\text{mA}$		20	40	
t_{off} Turn-off Time	$V_{CC} = 6\text{V}$		70	100	ns
t_s Storage Time	$I_C = 150\text{mA}$		50	80	
t_f Fall Time	$I_{B1} = I_{B2} = 15\text{mA}$		20	30	