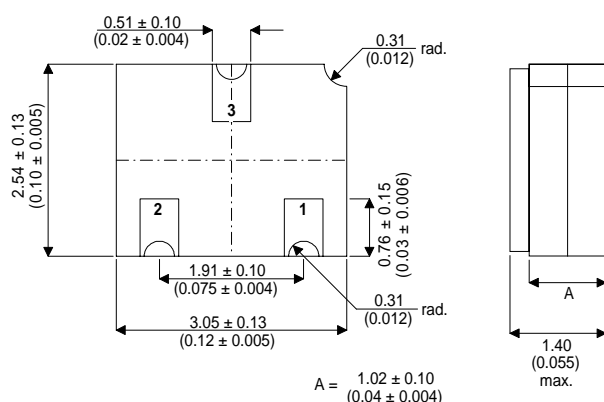


## HIGH SPEED, MEDIUM POWER, PNP SWITCHING TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

**MECHANICAL DATA**  
Dimensions in mm (inches)



### SOT23 CERAMIC (LCC1 PACKAGE)

Underside View

PAD 1 – Base    PAD 2 – Emitter    PAD 3 – Collector

### FEATURES

- SILICON PLANAR EPITAXIAL PNP TRANSISTOR
- HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)
- CECC SCREENING OPTIONS
- SPACE QUALITY LEVELS OPTIONS
- HIGH SPEED SATURATED SWITCHING

### APPLICATIONS:

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

### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C unless otherwise stated)

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
R <sub>ja</sub>	Thermal Resistance Junction to Ambient	350°C / W
T <sub>stg</sub> , T <sub>j</sub>	Storage Temperature, Operating Temp Range	-55 to 200°C

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

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

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

**DYNAMIC CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

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

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

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