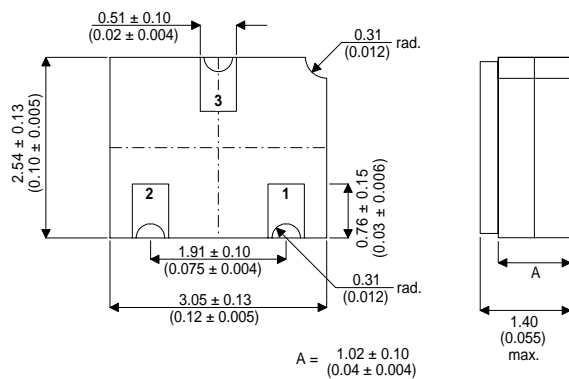


HIGH SPEED, MEDIUM POWER, PNP SWITCHING TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA

Dimensions in mm (inches)



LCC1 PACKAGE (DSCC TYPE UB)

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
- JAN LEVEL SCREENING 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 ($T_{case} = 25^{\circ}C$ unless otherwise stated)

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
R_{ja}	Thermal Resistance Junction to Ambient	350°C / W
T_{stg}, T_j	Storage Temperature, Operating Temp Range	-55 to 200°C

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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	$I_E = 0$ $V_{CB} = 50V$			0.01	μA
	$T_C = 125^{\circ}C$			10	
I_{EBO} Emitter Cut-off Current	$V_{EB} = 4V$			50	nA
$V_{CE(sat)^*}$ Collector – Emitter Saturation Voltage	$I_C = 150mA$ $I_B = 15mA$			-0.4	V
	$I_C = 500mA$ $I_B = 50mA$			-1.6	
$V_{BE(sat)^*}$ Base – Emitter Saturation Voltage	$I_C = 150mA$ $I_B = 15mA$			-1.3	V
	$I_C = 500mA$ $I_B = 50mA$			-2.6	
h_{FE}^* DC Current Gain	$I_C = 0.1mA$ $V_{CE} = 10V$	75			—
	$I_C = 1mA$ $V_{CE} = 10V$	100			
	$I_C = 10mA$ $V_{CE} = 10V$	100			
	$I_C = 150mA$ $V_{CE} = 10V$	100		300	
	$I_C = 500mA$ $V_{CE} = 10V$	50			

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

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