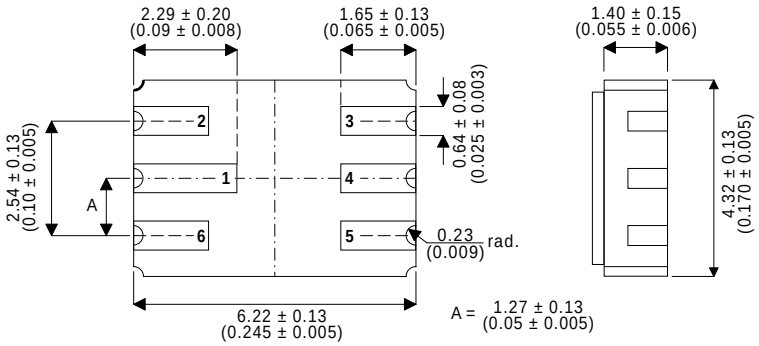
2N2907ADCSM

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)



FEATURES

- **DUAL SILICON PLANAR EPITAXIAL PNP TRANSISTORS**
- **HERMETIC CERAMIC SURFACE MOUNT PACKAGE**
- **CECC SCREENING OPTIONS**
- **SPACE QUALITY LEVELS OPTIONS**
- **HIGH SPEED SATURATED SWITCHING**

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

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°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

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SEME LAB

2N2907ADCSM

ELECTRICAL CHARACTERISTICS PER SIDE (T_C = 25°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 = 10µA		–60			V
$V_{(BR)EBO}$*	Emitter – Base Breakdown Voltage	I_E = 10µA	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°C				10	
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			–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 = 300µs , $\delta \leq 2\%$

DYNAMIC CHARACTERISTICS PER SIDE (T_C = 25°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

SWITCHING CHARACTERISTICS PER SIDE (RESISTIVE LOAD)

(T_C = 25°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	

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