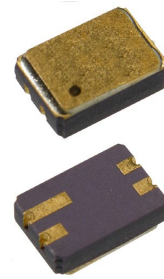


Surface Mount PNP General Purpose Transistor

2N2907AUA



Features:

- Ceramic 4 pin surface mount package
- Miniature package to minimize circuit board area
- Hermetically sealed
- Processed per MIL-PRF-19500/291

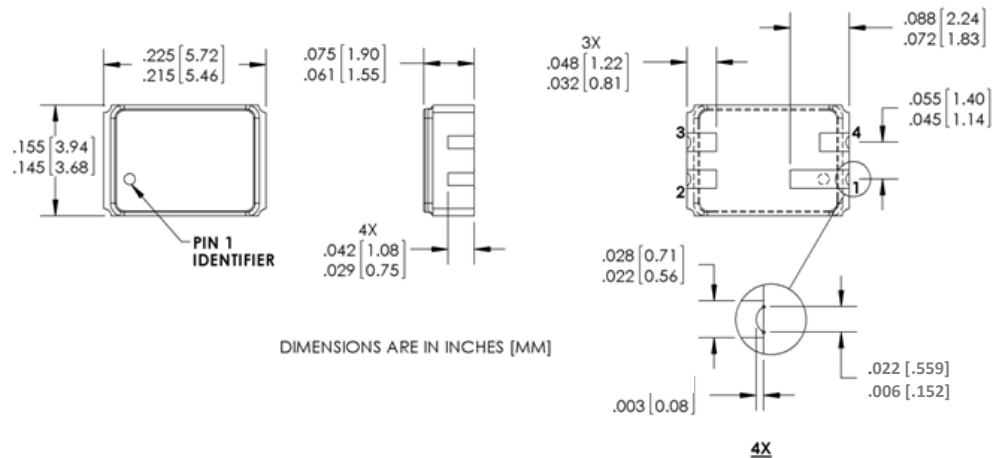
Description:

The 2N2907AUA is a hermetically sealed ceramic surface mount general purpose switching transistor. The miniature four pin ceramic package is ideal for designs where board space and device weight are important design considerations. The "UA" suffix denotes the 4 terminal leadless chip carrier package, type "A" per MIL-PRF-19500/291.

Typical screening per MIL-PRF-19500/291. The burn-in condition is $V_{CB} = 30\text{ V}$, $P_D = 400\text{ mW}$, $T_A = 25^\circ\text{ C}$, $t = 80\text{ hrs}$. Refer to MIL-PRF-19500/291 for complete requirements.

Applications:

- General switching
- Amplification
- Signal processing
- Radio transmission
- Logic gates



Pin	Function
1	Collector
2	Emitter
3	Base
4	No Connection

General Note

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Surface Mount PNP General Purpose Transistor

2N2907AUA



Electrical Specifications

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Collector-Base Voltage	60 V
Collector-Emitter Voltage	60 V
Emitter-Base Voltage	5.0 V
Collector Current-Continuous	600 mA
Operating Junction Temperature (T_J)	-65°C to $+200^\circ\text{C}$
Storage Junction Temperature (T_{stg})	-65°C to $+200^\circ\text{C}$
Power Dissipation @ $T_A = 25^\circ\text{C}$	0.5 W
Power Dissipation @ $T_C = 25^\circ\text{C}$ ⁽¹⁾	1.00 W
Soldering Temperature (vapor phase reflow for 30 seconds)	215°C
Soldering Temperature (heated collet for 5 seconds)	260°C

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
OFF CHARACTERISTICS					
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	60	-	V	$I_C = 10\text{ }\mu\text{A}$, $I_E = 0$
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	60	-	V	$I_C = 10\text{ mA}$, $I_B = 0$ ⁽²⁾
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	5.0	-	V	$I_E = 10\text{ }\mu\text{A}$, $I_C = 0$
I_{CBO}	Collector-Base Cutoff Current	-	10	μA	$V_{CB} = 50\text{ V}$, $I_E = 0$
		-	10	μA	$V_{CB} = 50\text{ V}$, $I_E = 0$, $T_A = 150^\circ\text{C}$
I_{EBO}	Emitter-Base Cutoff Current	-	10	μA	$V_{CE} = 4.0\text{ V}$, $I_C = 0$
I_{CES}	Collector Emitter Cutoff Current	-	50	nA	$V_{EB} = 50\text{ V}$
ON CHARACTERISTICS					
h_{FE}	Forward-Current Transfer Ratio	75	-	-	$V_{CE} = 10\text{ V}$, $I_C = 0.1\text{ mA}$
		100	450	-	$V_{CE} = 10\text{ V}$, $I_C = 1.0\text{ mA}$
		100	-	-	$V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$
		100	300	-	$V_{CE} = 10\text{ V}$, $I_C = 150\text{ mA}$ ⁽²⁾
		50	-	-	$V_{CE} = 10\text{ V}$, $I_C = 500\text{ mA}$ ⁽²⁾
		50	-	-	$V_{CE} = 10\text{ V}$, $I_C = 1.0\text{ mA}$, $T_A = -55^\circ\text{C}$

Note:

1. Derate linearly 6.6 mW/ $^\circ\text{C}$ above 25°C

2. Pulse Width $\leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2.0\%$

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Surface Mount PNP General Purpose Transistor

2N2907AUA



Electrical Specifications

Electrical Characteristics ($T_A = 25^\circ \text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
OFF CHARACTERISTICS					
$V_{CE(SAT)}^{(2)}$	Collector-Emitter Saturation Voltage	-	0.40	V	$I_C = 150\text{ mA}, I_B = 15\text{ mA}$
		-	1.60	V	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$
$V_{BE(SAT)}^{(2)}$	Base-Emitter Saturation Voltage	-	1.30	V	$I_C = 150\text{ mA}, I_B = 15\text{ mA}$
		-	2.60	V	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$
SMALL-SIGNAL CHARACTERISTICS					
$ h_{fe} $	Small Signal Forward Current Transfer Ratio	100	-	-	$V_{CE} = 10\text{ V}, I_C = 1.0\text{ mA}, f = 1.0\text{ kHz}$
$ h_{fe} $	Small Signal Forward Current Transfer Ratio	2.0	-	-	$V_{CE} = 20\text{ V}, I_C = 20\text{ mA}, f = 100\text{ MHz}$
C_{obo}	Open Circuit Output Capacitance	-	8.0	pF	$V_{CB} = 10\text{ V}, 100\text{ kHz} \leq f \leq 1.0\text{ MHz}$
C_{ibo}	Input Capacitance (Output Open)	-	30	pF	$V_{EB} = 2.0\text{ V}, 100\text{ kHz} \leq f \leq 1.0\text{ MHz}$
SWITCHING CHARACTERISTICS					
t_{on}	Turn-On Time	-	45	ns	$V_{CC} = 30\text{ V}, I_C = 150\text{ mA}, I_{B1} = 15\text{ mA}$
t_{off}	Turn-Off Time	-	300	ns	$V_{CC} = 30\text{ V}, I_C = 150\text{ mA}, I_{B1} = I_{B2} = 15\text{ mA}$

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