

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

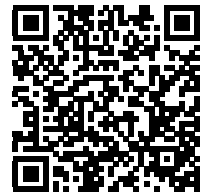
Part Number: 2N2222AUB
Manufacturer: TT Electronics/Optek Technology
Package: 3-LCC
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/tt-electronics-optek-technology/2n2222aub.html>

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Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

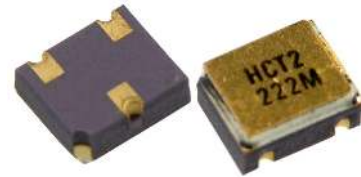
Surface Mount NPN General Purpose Transistor

2N2222AUB



Features:

- Ceramic 3 pin surface mount package (UBN)
- Miniature package to minimize circuit board area
- Hermetically sealed
- Processed per MIL-PRF-19500/255
- Same footprint and pin-out as many SOT-23 package transistors



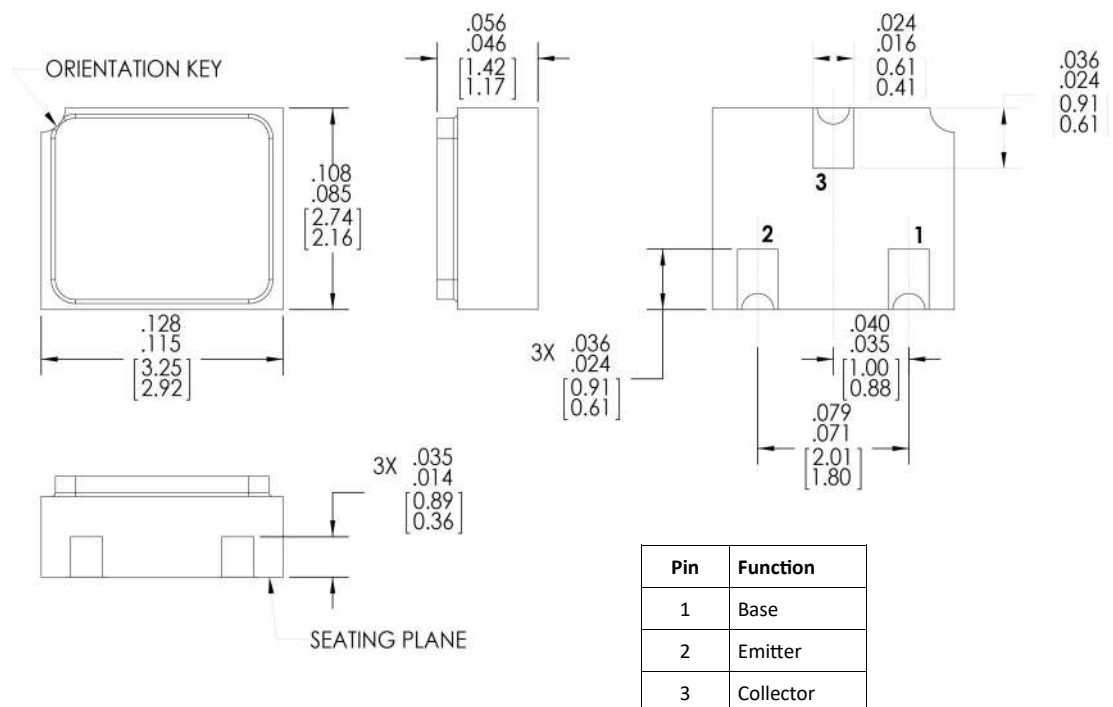
Description:

The 2N2222AUB is a miniature hermetically sealed ceramic surface mount general purpose switching transistor. The miniature three pin ceramic package is ideal for upgrading commercial grade circuits to military reliability levels where plastic SOT-23 devices have been used. The "UB" suffix denotes the 3 terminal chip carrier package.

Typical screening per MIL-PRF-19500/255. Refer to MIL-PRF-19500/255 for complete requirements.

Applications:

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



General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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2N2222AUB



Electrical Specifications

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

Collector-Base Voltage	75 V
Collector-Emitter Voltage	50 V
Emitter-Base Voltage	6.0 V
Collector Current-Continuous	800 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 @ $T_A = 25^\circ \text{C}$	0.3 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	75	-	V	$I_C = 10 \mu\text{A}$, $I_E = 0$
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	50	-	V	$I_C = 10 \text{ mA}$, $I_B = 0$
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	6.0	-	V	$I_E = 10 \mu\text{A}$, $I_C = 0$
I_{CBO}	Collector-Base Cutoff Current	-	10	nA	$V_{CB} = 60 \text{ V}$, $I_E = 0$
		-	10	μA	$V_{CB} = 60 \text{ V}$, $I_E = 0$, $T_A = 150^\circ \text{C}$
I_{EBO}	Emitter-Base Cutoff Current	-	10	nA	$V_{EB} = 4 \text{ V}$, $I_C = 0$
I_{CES}	Collector Emitter Cutoff Current	-	50	nA	$V_{CE} = 50 \text{ V}$
ON CHARACTERISTICS					
h_{FE}	Forward-Current Transfer Ratio	50	-	-	$V_{CE} = 10 \text{ V}$, $I_C = 0.1 \text{ mA}$
		75	325	-	$V_{CE} = 10 \text{ V}$, $I_C = 1.0 \text{ mA}$
		100	-	-	$V_{CE} = 10 \text{ V}$, $I_C = 10 \text{ mA}$
		100	300	-	$V_{CE} = 10 \text{ V}$, $I_C = 150 \text{ mA}$ ⁽²⁾
		30	-	-	$V_{CE} = 10 \text{ V}$, $I_C = 500 \text{ mA}$ ⁽²⁾
		35	-	-	$V_{CE} = 10 \text{ V}$, $I_C = 10 \text{ mA}$, $T_A = -55^\circ \text{C}$

Note:

- Derate linearly 6.6 mW/ $^\circ \text{C}$ above 25°C
- Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0 \%$

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Surface Mount NPN General Purpose Transistor

2N2222AUB



Electrical Specifications

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

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
ON CHARACTERISTICS					
$V_{CE(SAT)}^{(2)}$	Collector-Emitter Saturation Voltage	-	0.3	V	$I_C = 150\text{ mA}, I_B = 15\text{ mA}$
		-	1.0	V	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$
$V_{BE(SAT)}^{(2)}$	Base-Emitter Saturation Voltage	0.6	1.2	V	$I_C = 150\text{ mA}, I_B = 15\text{ mA}$
		-	2.0	V	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$
SMALL-SIGNAL CHARACTERISTICS					
$ h_{fe} $	Small Signal Forward Current Transfer Ratio	50	-	-	$V_{CE} = 10\text{ V}, I_C = 1.0\text{ mA}, f = 1.0\text{ kHz}$
$ h_{fe} $	Small Signal Forward Current Transfer Ratio	2.5	-	-	$V_{CE} = 20\text{ V}, I_C = 20\text{ mA}, f = 100\text{ MHz}$
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)	-	25	pF	$V_{EB} = 0.5\text{ V}, 100\text{ kHz} \leq f \leq 1.0\text{ MHz}$
SWITCHING CHARACTERISTICS					
t_{on}	Turn-On Time	-	35	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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