

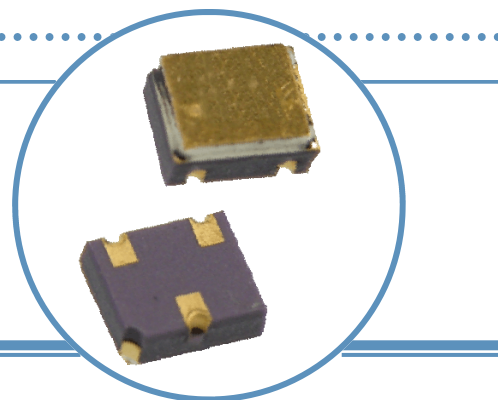
Surface Mount PNP General Purpose Transistor

2N2907AUB, 2N2907AUBTX, 2N2907AUBTXV



Features:

- Ceramic surface mount package
- Miniature package to minimize circuit board area
- Hermetically sealed
- Footprint and pin-out matches SOT-23 packaged transistors
- Qualification per MIL-PRF-19500/291

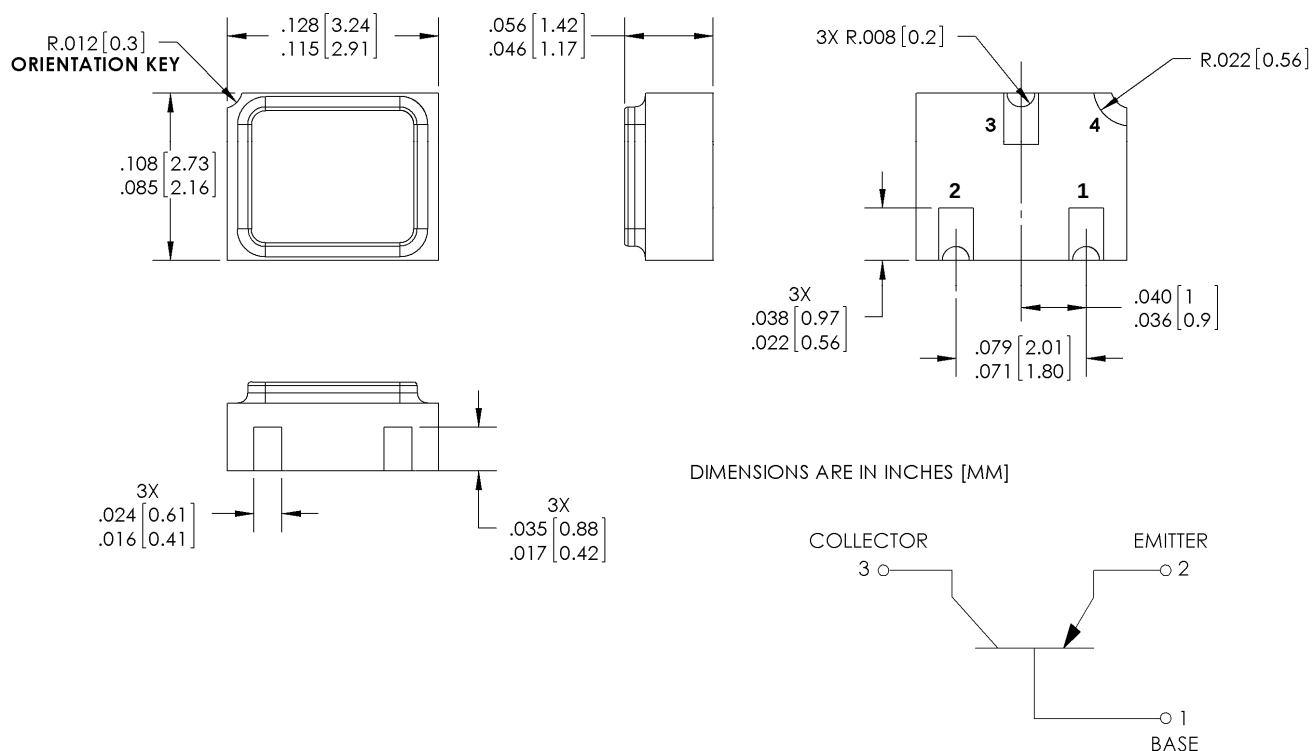


The 2N2907AUB, 2N2907AUBTX and 2N2907AUBTXV are miniature, hermetically sealed, ceramic surface mount general purpose switching transistors. The miniature three pin ceramic package is ideal for upgrading commercial grade circuits to military reliability levels where plastic SOT-23 devices have been used. The "UB" suffix denotes the 3 terminal chip carrier package, type "B" per MIL-PRF-19500/291.

Typical screening and lot acceptance tests are available.

The burn-in condition is $V_{CB} = 30 \text{ V}$, $P_D = 200 \text{ mW}$, $T_A = 25^\circ\text{C}$, $t = 80 \text{ hrs}$.

Refer to MIL-PRF-19500/291 for complete requirements. In addition, the TX and TXV versions receive 100% thermal response testing.



DIMENSIONS ARE IN INCHES [MM]

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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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	5.0V
Collector Current-Continuous	600 mA
Operating Junction Temperature (T_J)	-65° C to +200° C
Storage Junction Temperature (T_{slg})	-65° C to +200° C
Power Dissipation @ $T_A = 25^\circ\text{C}$	0.4 W
Power Dissipation @ $T_C = 25^\circ\text{C}$	1.16 W ⁽¹⁾
Soldering Temperature (vapor phase reflow for 30 sec)	215° C
Soldering Temperature (heated collet for 5 sec)	260° C

NOTES:

(1) Derate linearly 6.6 mW / °C above 25° C.

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

SYMBOL	PARAMETER	MIN	MAX	UNITS	CONDITIONS
Off Characteristics:					
V _{(BR)CBO}	Collector-Base Breakdown Voltage	60	----	V	I _C = 10 μA, I _E = 0
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	60	----	V	I _C = 10 mA, I _B = 0 ⁽²⁾
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	5.0	----	V	I _E = 10 μA, I _C = 0
I _{CBO}	Collector-Base Cutoff Current		10	nA	V _{CB} = 50 V, I _E = 0
			10	μA	V _{CB} = 50 V, I _E = 0, T _A = 150° C
I _{CES}	Collector-Emitter Cutoff Current		50	nA	V _{CE} = 50 V
I _{EBO}	Emitter-Base Cutoff Current		50	nA	V _{EB} = 4.0 V, I _C = 0
On Characteristics					
h _{FE}	Forward-Current Transfer Ratio	75		----	V _{CE} = 10 V, I _C = 0.1 mA
		100	450	----	V _{CE} = 10 V, I _C = 1.0 mA
		100		----	V _{CE} = 10 V, I _C = 10 mA
		100	300	----	V _{CE} = 10 V, I _C = 150 mA ⁽²⁾
		50		----	V _{CE} = 10 V, I _C = 500 mA ⁽²⁾
		50		----	V _{CE} = 10 V, I _C = 1.0 mA, T _A = 55° C
V _{CE(SAT)}	Collector-Emitter Saturation Voltage		0.40	V	I _C = 150 mA, I _B = 15 mA ⁽²⁾
			1.60	V	I _C = 500 mA, I _B = 50 mA ⁽²⁾
V _{BE(SAT)}	Base-Emitter Saturation Voltage		1.30	V	I _C = 150 mA, I _B = 15 mA ⁽²⁾
			2.60	V	I _C = 500 mA, I _B = 50 mA ⁽²⁾
Small-Signal Characteristics					
h _{FE}	Forward-Current Transfer Ratio	100			V _{CE} = 10 V, I _C = 1.0 mA, f = 1.0 kHz
h _{fe}	Forward-Current Transfer Ratio	2.0			V _{CE} = 20 V, I _C = 50 mA, f = 100 MHz
C _{obo}	Open Circuit Output Capacitance		8.0	pF	V _{CB} = 10 V, 100 kHz ≤ f ≤ 1.0 MHz
C _{ibo}	Input Capacitance (Output Open)		30	pF	V _{EB} = 2.0 V, 100 kHz ≤ f ≤ 1.0 MHz
Switching Characteristics					
t _{on}	Turn-On Time		45	ns	V _{CC} = 30 V, I _C = 150 mA, I _{B1} = 15 mA
t _{off}	Turn-Off Time		300	ns	V _{CC} = 30 V, I _C = 150 mA, I _{B1} = I _{B2} = 15 mA

NOTES:

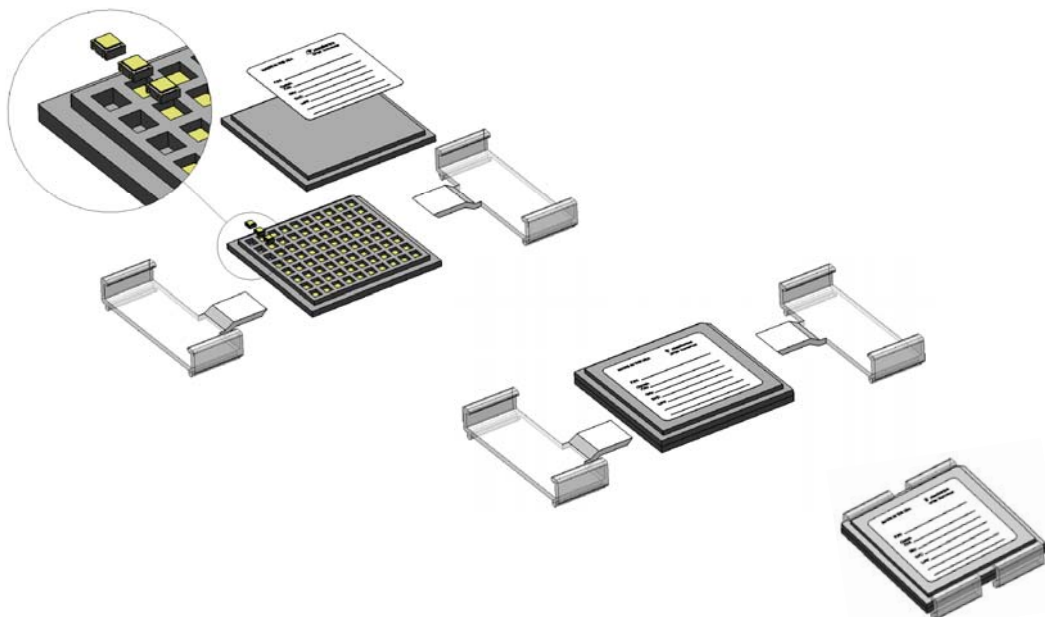
(2) Pulse Width $\leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2.0\%$

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Standard Packaging:

Waffle Pack



This product is built, tested and shipped from the USA 

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