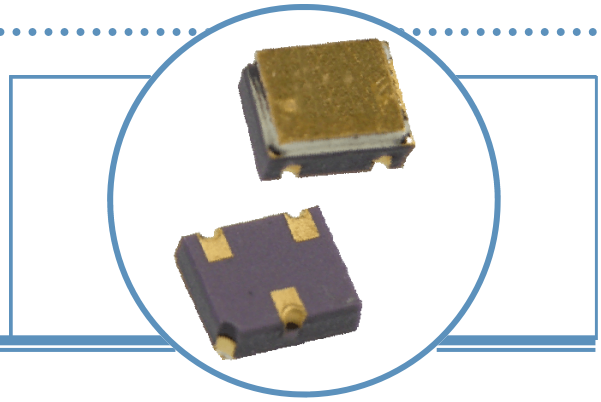
Surface Mount PNP General Purpose Transistor
2N2907AUB, 2N2907AUBTX, 2N2907AUBTXV

TT electronics
OPTEK Technology

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 V, P_D = 200 mW, T_A = 25°C, t = 80 hrs.

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

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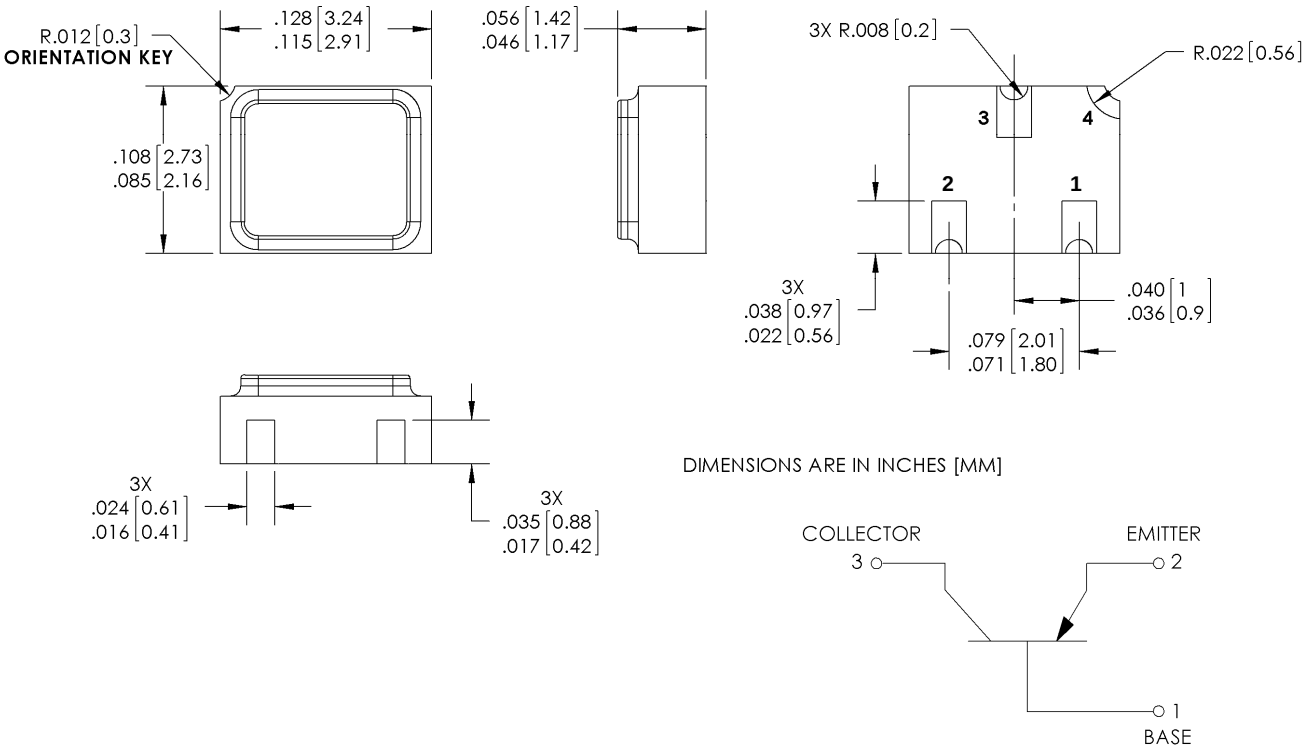

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

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_{stg})	-65° C to +200° C
Power Dissipation @ T_A = 25° C	0.4 W
Power Dissipation @ T_C = 25° 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° 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
$\lvert h_{fe} \rvert$	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 ≤ 300 µs, Duty Cycle ≤ 2.0 %

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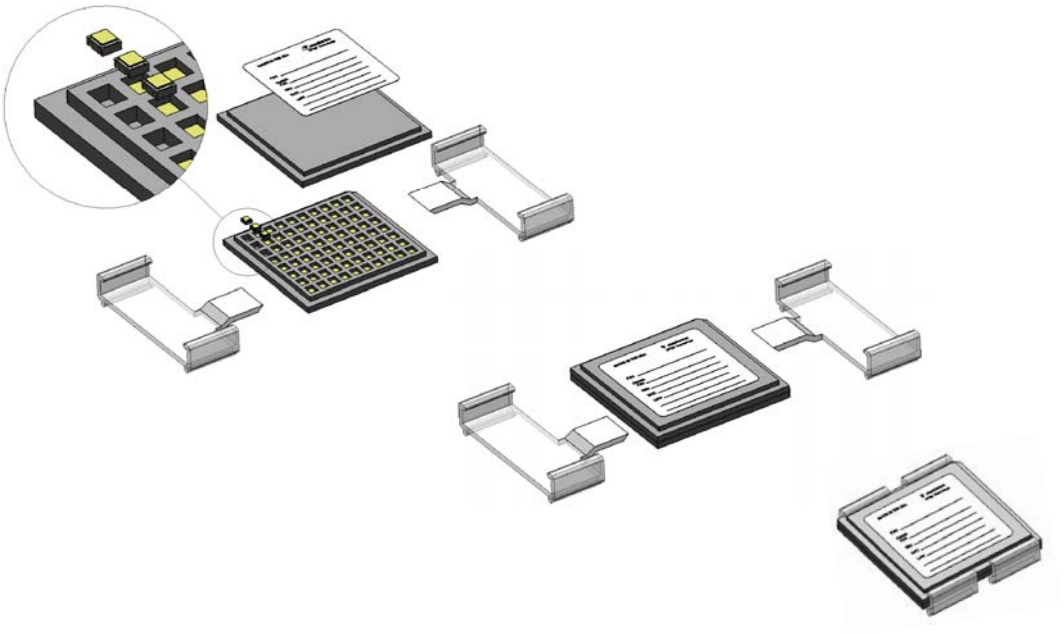
Standard Packaging:

Waffle Pack



This product is built, tested and shipped from the USA