

FT2N2222AUB

SURFACE MOUNT (NPN) GENERAL PURPOSE TRANSISTOR



Features:

- Hermetically sealed
- High Reliability
- Small, ceramic surface mount package
- Same footprint as most SOT-23's
- MIL-PRF-19500 screening available

Applications:

- Analog Switch
- Small Signal Amplifier
- Signal Conditioning
- Switching power supplies
- Surface mountable

DESCRIPTION:

The **FT2N2222AUB** is a hermetically sealed ceramic surface mount general purpose switching transistor. This miniature ceramic package is ideal for designs where board space is at a premium and device weight is an important consideration. This device is available screened in accordance with MIL-PRF-19500 up to "S" level.

ABSOLUTE MAXIMUM RATINGS

Emitter-Base Voltage.....	6V
Collector-Emitter Voltage (Value applies to emitter-base open-circuited & the input-diode equal to zero).....	50V
Collector-Base Voltage.....	75V
Continuous Collector Current.....	800mA
Power Dissipation at at $T_C = 25^\circ\text{C}$	(see Note 1) 1.16W
Maximum Junction Temperature.....	+200°C
Storage Temperature.....	-65°C to +200°C
Operating Free-Air Temperature Range.....	-65°C to +200°C
Lead Solder Temperature (Vapor Phase Reflow-30sec.).....	215°C

Notes:

1. Derate linearly at the rate of 6.6 mW/°C above +25°C.

SELECTION GUIDE

PART NUMBER	PART DESCRIPTION
FT2N2222AUB.003	2N2222AUB NPN Transistor Commercial (-55° to 200°C operating temperature range)
FT2N2222AUB.004	2N2222AUB NPN Transistor, TX Processed (-55° to 200°C operating temperature range)

NOTE: X at end of part number represents lead finish. Replace with A for gold or S for solder.

FT2N2222AUB

Surface Mount NPN General Purpose Transistor

ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise specified.

Off Characteristics

PARAMETER	SYMBOL	MIN	MAX	UNITS	TEST CONDITIONS	NOTE
Collector-Base Breakdown Voltage	V _{(BR)CBO}	75		V	I _C = 10μA, I _E = 0	
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	50		V	I _C = 10mA, I _B = 0	
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	6		V	I _E = 10μA=	
Collector-Base Cutoff Current +25°C	I _{CBO}		10	nA	V _{CB} = 60V, I _E = 0	
Collector-Base Cutoff Current +150°C			10	μA		
Collector-Emitter Cutoff Current +25°C	I _{CES}		50	nA	V _{CE} = 50V	
Emitter-Base Cutoff Current +25°C	I _{EBO}		10	nA	V _{EB} = 4.0V, I _C = 0	

On Characteristics

Forward-Current Transfer Ratio	h _{FE}	50			V _{CE} = 10V, I _C = 0.1mA	
		75	450		V _{CE} = 10V, I _C = 1.0mA	
		100			V _{CE} = 10V, I _C = 10mA	
		100	300		V _{CE} = 10V, I _C = 150mA	
		30			V _{CE} = 10V, I _C = 500mA	
		35			V _{CE} = 10V, I _C = 10mA, -55°C	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}		0.30	V	I _C = 150mA, I _B = 15mA	1/
			1.0	V	I _C = 500mA, I _B = 15mA	1/
Base-Emitter Saturation Voltage	V _{BE(SAT)}	0.6	1.20	V	I _C = 150mA, I _B = 15mA	1/
			2.0	V	I _C = 500mA, I _B = 15mA	1/

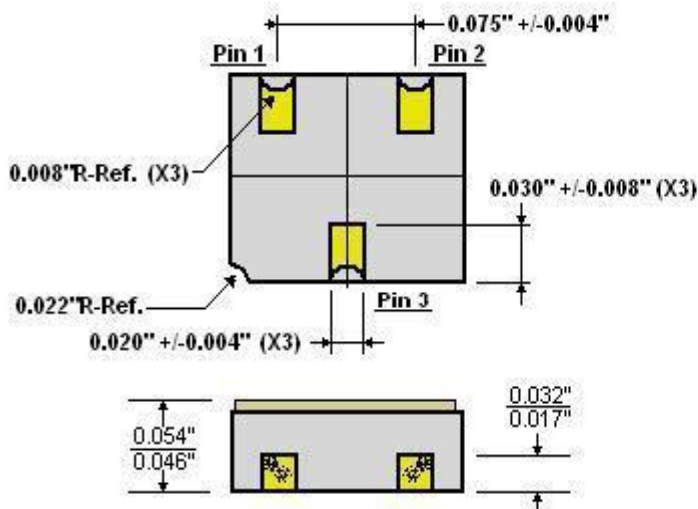
Small-Signal Characteristics

Forward-Current Transfer Ratio	h _{FE1}	50		-	V _{CE} = 10V, I _C = 1.0mA, f = 1.0 kHz	
	h _{FE2}	2.5		-	V _{CE} = 20V, I _C = 20mA, f = 100 MHz	
Open Circuit Output Capacitance	C _{OBO}		8.0	pF	V _{CB} = 10V, 100kHz ≤ f ≤ 1.0 MHz	
Input Capacitance (Output Open)	C _{IBO}		25	pF	V _{EB} = 0.5V, 100kHz ≤ f ≤ 1.0 MHz	
Turn-On Time	t _{ON}		35	ns	V _{CC} = 30V, I _C = 150mA, I _{B1} = 15mA	
Turn-Off Time	t _{OFF}		300	ns	V _{CC} = 30V, I _C = 150mA, I _{B1} = I _{B2} = 15mA	

NOTES:

1/. Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

Package Dimensions



Schematic Diagram

