



NEW ENGLAND SEMICONDUCTOR

NCC2222AUB

SURFACE MOUNT SMALL SIGNAL NPN TRANSISTORS

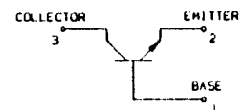
- Hermetic Ceramic Package
- Screening to SX Level Available
- Electrical Specifications Similar to 2N2222A
- Group B and C Testing Available

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

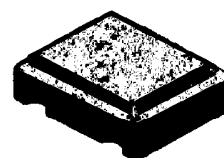
Rating	Symbol	NCC2222AUB	Unit
Collector-Emitter Voltage	V_{CE0}	50	Vdc
Emitter-Base Voltage	V_{EB}	6.0	Vdc
Collector-Base Voltage	V_{CB}	75	Vdc
Collector Current - Continuous	I_C	800	mA
Total Power Dissipation @ $T_A = 25^{\circ}\text{C}$ Derate above 25°C	P_D	0.4	Watts W°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65°C to $+200^{\circ}\text{C}$	$^{\circ}\text{C}$

PRODUCT DESCRIPTION

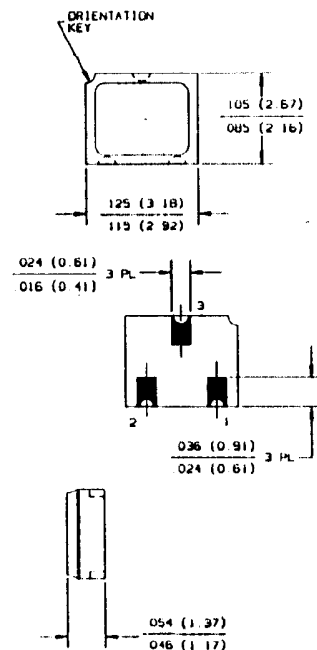
The NCC2222AUB is a small signal NPN Transistor packaged in a 3 pin hermetically sealed ceramic leadless chip carrier. The Electrical Characteristics of each chip are similar to the MIL -S-19500/255 (2N2222A).



CIRCUIT DIAGRAM



3 PIN LCC



DIMENSIONS ARE IN INCHES (MILLIMETERS)

MECHANICAL OUTLINE

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6 Lake Street Lawrence, MA 01841
1-800-446-1158 / (978) 794-1666 / FAX: (978) 689-0803

T4-4.8-860-009 REV: --



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NCC2222AUB

Electrical Characteristics (T_A = 25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Off Characteristics						
V _{(BR)CBO}	Collector-Base Breakdown Voltage	75			V	I _C = 10.0 μA, I _E = 0
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	50			V	I _C = 10.0 mA, I _B = 0
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	6.0			V	I _E = 10.0 μA, I _C = 0
I _{CBO}	Collector-Base Cutoff Current			10.0	nA	V _{CB} = 60 V, I _E = 0
				10.0	μA	V _{CB} = 60 V, I _E = 0, T _A = 150°C
I _{EBO}	Emitter-Base Cutoff Current			10.0	nA	V _{EB} = 4.0 V, I _C = 0
I _{CES}	Collector-Emitter Cutoff Current			1.0	μA	V _{CE} = 50 V
On Characteristics						
h _{FE}	Forward Current Transfer Ratio	50			-	V _{CE} = 10.0 V, I _C = 0.1 mA
		75		325	-	V _{CE} = 10.0 V, I _C = 1.0 mA
		100			-	V _{CE} = 10.0 V, I _C = 10.0 mA
		100		300	-	V _{CE} = 10.0 V, I _C = 150 mA ⁽³⁾
		30			-	V _{CE} = 10.0 V, I _C = 500 mA ⁽³⁾
		35			-	V _{CE} = 10.0 V, I _C = 10.0 mA, T _A = -55°C
V _{CE(SAT)}	Collector-Emitter Saturation Voltage			0.30	V	I _C = 150 mA, I _B = 15 mA ⁽³⁾
				1.0	V	I _C = 500 mA, I _B = 50 mA ⁽³⁾
V _{BE(SAT)}	Base-Emitter Saturation Voltage	0.60		1.20	V	I _C = 150 mA, I _B = 15 mA ⁽³⁾
				2.0	V	I _C = 500 mA, I _B = 50 mA ⁽³⁾
Small-Signal Characteristics						
h _{ie}	Small-Signal Forward Current Transfer Ratio	50			-	V _{CE} = 10.0 V, I _C = 1.0 mA, f = 1.0 kHz
h _{ie1}	Small-Signal Forward Current Transfer Ratio	2.5			-	V _{CE} = 20 V, I _C = 20 mA, f = 100 MHz
C _{obo}	Open Circuit Output Capacitance			8.0	pF	V _{CB} = 10.0 V, 100 kHz ≤ f ≤ 1.0 MHz
C _{ibo}	Input Capacitance (Output Open Capacitance)			33	pF	V _{EB} = 0.5 V, 100 kHz ≤ f ≤ 1.0 MHz
Switching Characteristics						
t _{on}	Turn-On Time			35	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

(3) Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%

SX LEVEL RELIABILITY TESTING

100 SCREENING	GROUP A	GROUP B (Sample)	GROUP C (Sample)
Internal Visual Temp Cycle Thermal Response Constant Acceleration PIND Fine and Gross Leak HTRB Power Burn In	Visual and Mechanical DC Static Tests 25°C DC Static Tests High Temp DC Static Tests Low Temp Dynamic Tests @ 25°C	Solderability Temp Cycle Fine and Gross Leak Bond Strength Intermittent Op Life Steady State Op life Thermal Resistance Hi-Temp (non operating)	Physical Dimensions Thermal Shock Terminal Strength Hermetic Seal Moisture Resistance Shock Test Vibration Test Constant Acceleration Salt Atmosphere Operation Life

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