

Descriptions

This is Silicon NPN transistor in a TO-92 Plastic Package

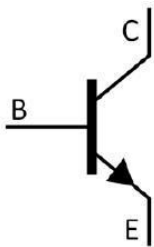
Features

- Low Leakage current
- Low collector saturation voltage enabling low voltage operation

Applications

General purpose amplifier.

Equivalent Circuit



Pinning



PIN1: Collector PIN 2: Base PIN 3: Emitter

hFE Classifications & Marking

See Marking Instructions.

Absolute Maximum Ratings(Ta=25°C)

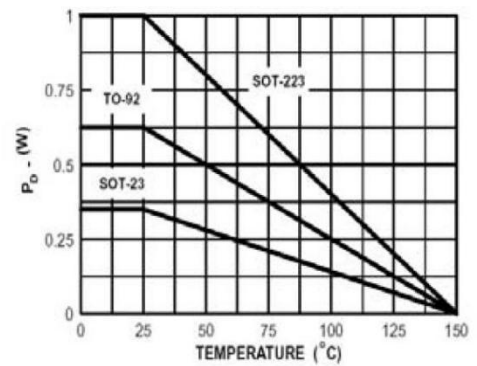
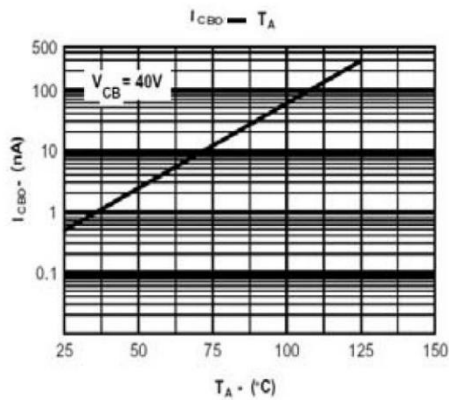
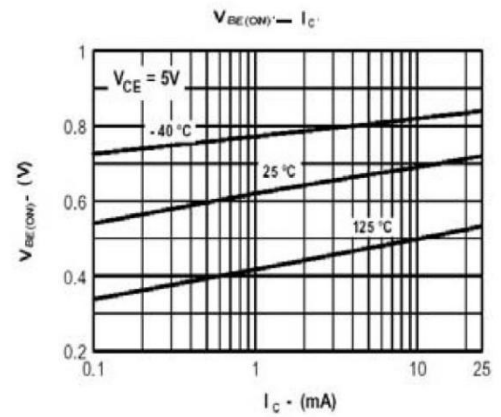
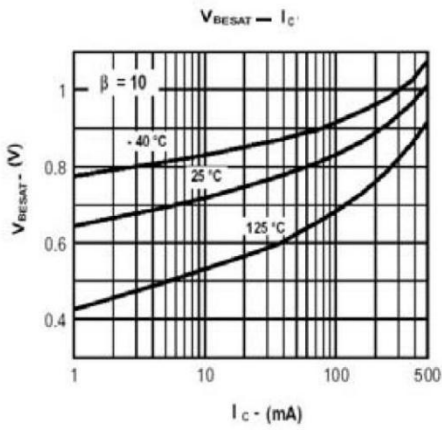
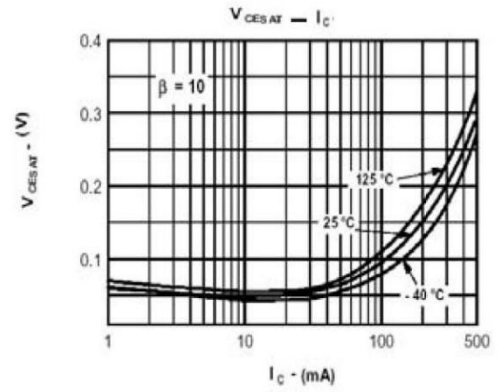
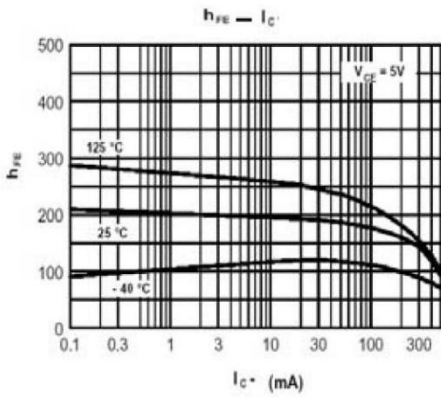
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V _{CBO}	75	V
Collector to Emitter Voltage	V _{CEO}	40	V
Emitter to Base Voltage	V _{EBO}	6.0	V
Collector Current - Continuous	I _C	600	mA
Collector Power Dissipation	P _C	625	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~150	°C

Electrical Characteristics(Ta=25°C)

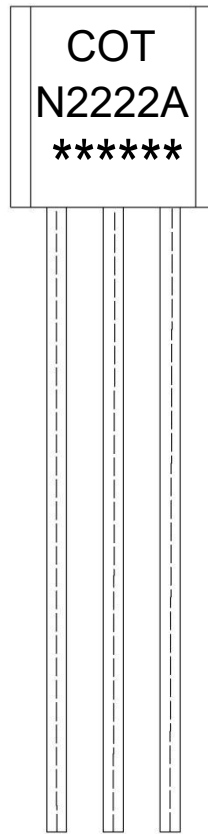
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V _{CBO}	I _C =10μA I _E =0	75			V
Collector to Emitter Breakdown Voltage	V _{CEO}	I _C =10mA I _B =0	40			V
Emitter to Base Breakdown Voltage	V _{EBO}	I _E =10μA I _C =0	6.0			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =60V I _E =0			0.01	μA
Emitter Cut-Off Current	I _{EBO(1)}	V _{EB} =3.0V I _C =0			0.01	μA
	I _{EBO(2)}	V _{EB} =5.0V I _C =0			0.1	μA
DC Current Gain	h _{FE(1)}	V _{CE} =10V I _C =150mA*	100		300	
	h _{FE(2)}	V _{CE} =10V I _C =0.1mA	40			
	h _{FE(3)}	V _{CE} =10V I _C =500mA*	42			
Collector-Emitter Saturation Voltage	V _{CE(sat)(1)}	I _C =150mA I _B =15mA			0.3	V
	V _{CE(sat)(2)}	I _C =500mA I _B =50mA			0.6	V
Base-Emitter Saturation Voltage	V _{BE(sat)(1)}	I _C =150mA I _B =15mA		0.6	1.2	V
	V _{BE(sat)(2)}	I _C =500mA I _B =50mA			1.2	V
Transition Frequency	f _T	V _{CE} =20V f=100MHz I _C =20mA	300			MHz
Collector Output Capacitance	C _{ob}	V _{CB} =10V f=1.0MHz I _E =0			8.0	pF
Turn-On Time	T _{on}	V _{CC} =30V V _{BE(OFF)} =0.5V I _C =150mA I _{B1} =15mA			35	ns
Turn-Off Time	T _{off}	V _{CC} =30V I _C =150mA I _{B1} =I _{B2} =15mA			285	ns
Noise Figure	NF	I _C =100μA R _S =1.0KΩ V _{CE} =10V f=1.0KHz			4.0	dB

*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%

Electrical Characteristic Curve



Marking Instructions



Note:

COT: Company Code.

N2222A: Product Type Code.

*****: *: Inner Code * : Year Code **: Week Code **: Lot Code

Packaging SPEC

BULK

Package Type	Units					Dimension (unit: mm3)		
	Units/Bag	Bags/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Bag	Inner Box	Outer Box
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375

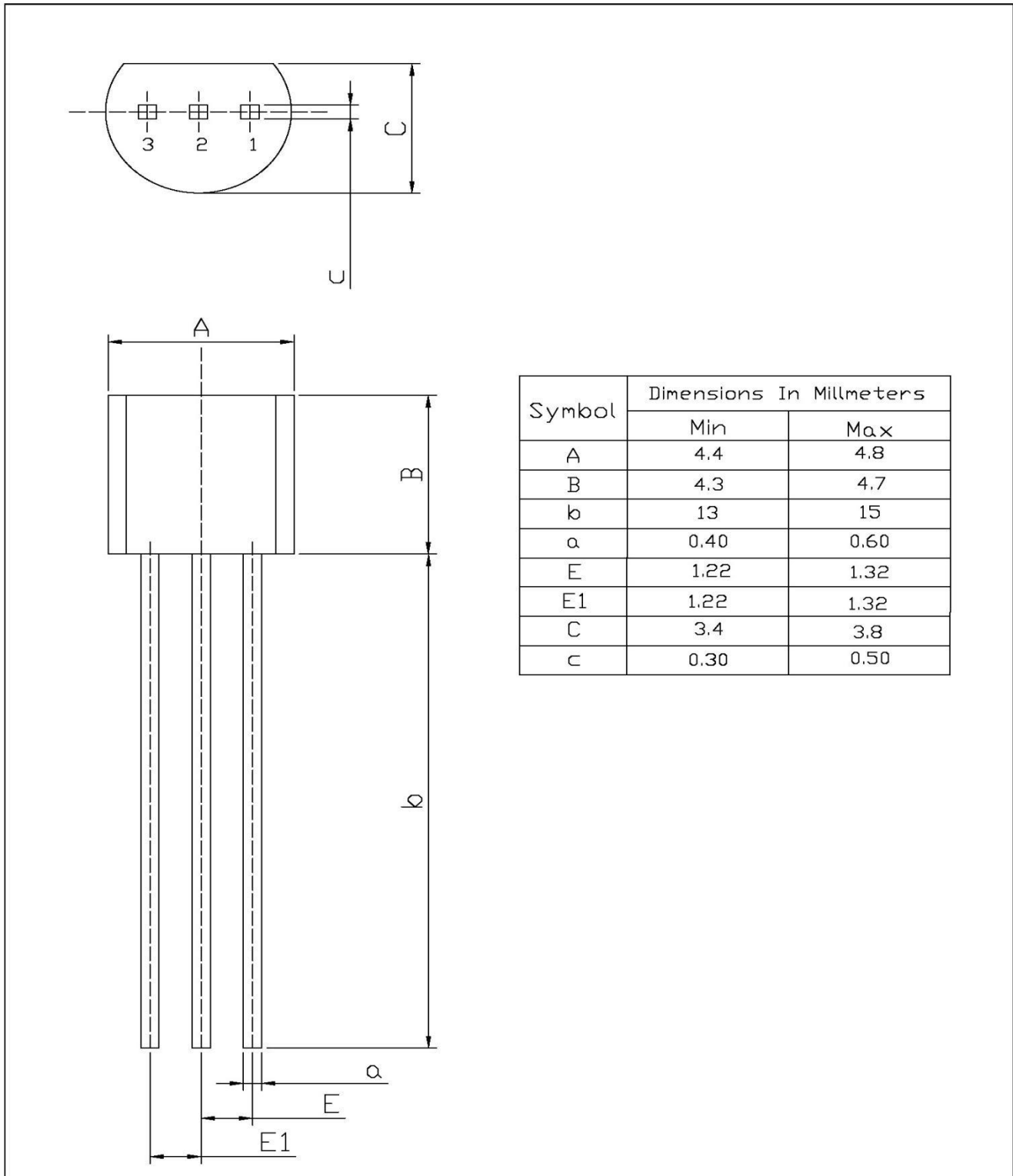
AMMO

Package Type	Units					Dimension (unit: mm3)	
	Units/tape	Tape/Inner Box	Rows/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Inner Box	Outer Box
TO-92	3,000	1	120	10	30,000	328×230×42	480×346×235, 547×407×268

Package Dimensions

TO-92

Unit: mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.4	4.8
B	4.3	4.7
b	13	15
α	0.40	0.60
E	1.22	1.32
E1	1.22	1.32
C	3.4	3.8
c	0.30	0.50