Description

Silicon NPN transistor in a TO-92 Plastic Package

Applications

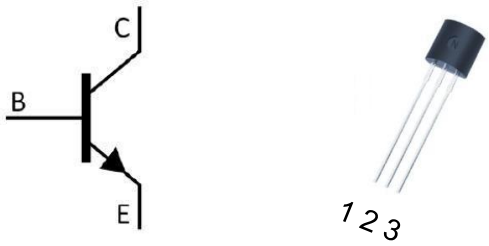
High voltage control circuit

Features

- High voltage

Symbol	Parameter	Max	Unit
V_{CEO}	collector-emitter voltage	400	V
I_C	collector current (DC)	300	mA

Equivalent Circuit & Pinning



PIN1：Collector　　PIN 2：Base　　PIN 3：Emitter

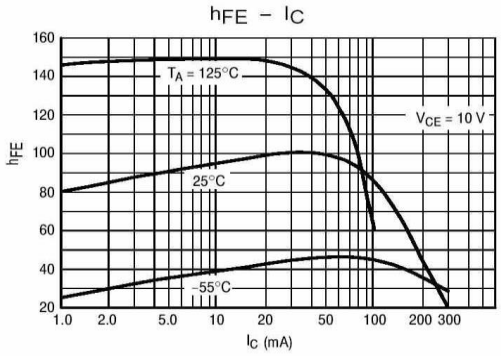
Absolute Maximum Ratings(Ta=25℃)

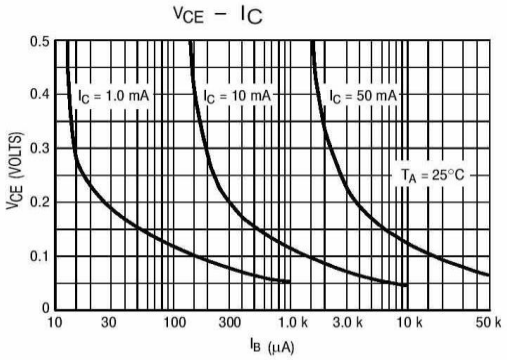
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	500	V
Collector to Emitter Voltage	V_{CEO}	400	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	300	mA
Collector Power Dissipation	P_C	625	mW
Collector Power Dissipation	$P_C(T_C=25℃)$	1.5	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

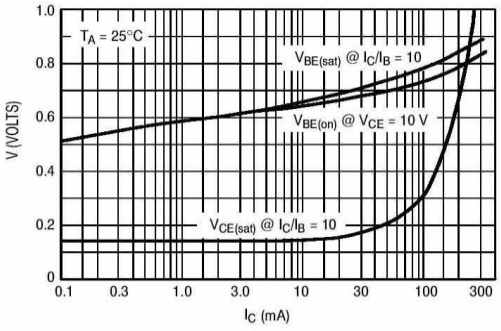
Electrical Characteristic (Ta=25℃)

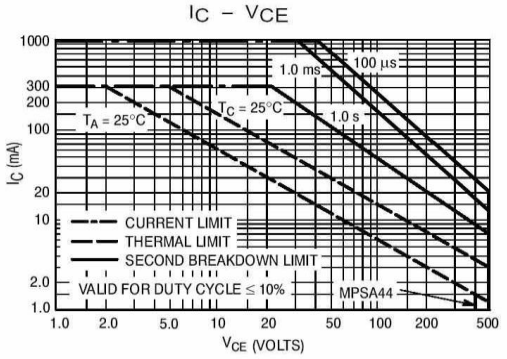
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=100μA I_E=0	500			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=1.0mA I_B=0	400			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=10μA I_C=0	6.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=400V I_E=0			0.1	μA
Collector Cut-Off Current	I_{CES}	V_{CE}=400V V_{BE}=0			1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=4.0V I_C=0			0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=10V I_C=10mA	50		200	
	$h_{FE(2)}$	V_{CE}=10V I_C=100mA	40			
	$h_{FE(3)}$	V_{CE}=10V I_C=50mA	45			
	$h_{FE(4)}$	V_{CE}=10V I_C=1.0mA	40			
Collector to Emitter Saturation Voltage	$V_{CE(sat)\ (1)}$	I_C=1.0mA I_B=0.1mA			0.4	V
	$V_{CE(sat)\ (2)}$	I_C=10mA I_B=1.0mA			0.5	V
	$V_{CE(sat)\ (3)}$	I_C=50mA I_B=5.0mA			0.75	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=10mA I_B=1.0mA			0.75	V
Output Capacitance	C_{ob}	V_{CB}=20V I_E=0 f=1.0MHz			7.0	pF

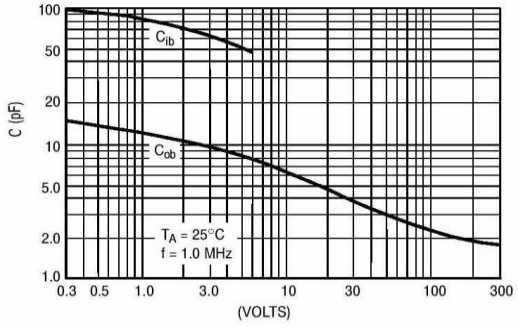
Electrical Characteristic Curve

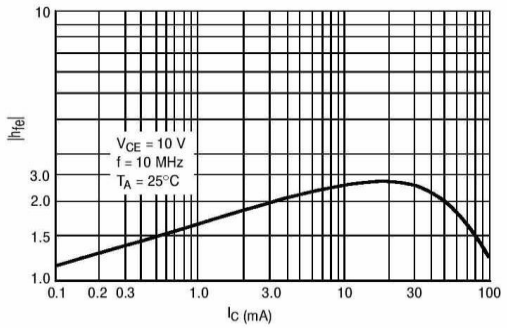




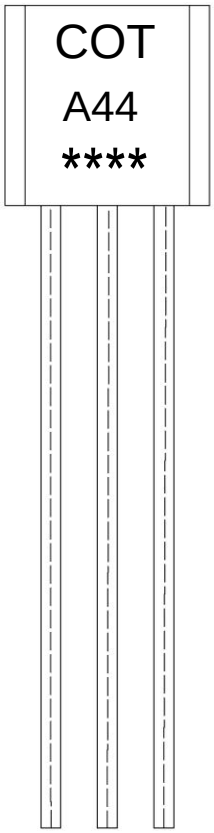








Marking Instructions



Note:

COT: Company Code.

A44: Product Type.

****: Lot No. Code,code change with Lot No.

Packaging SPEC.

BULK

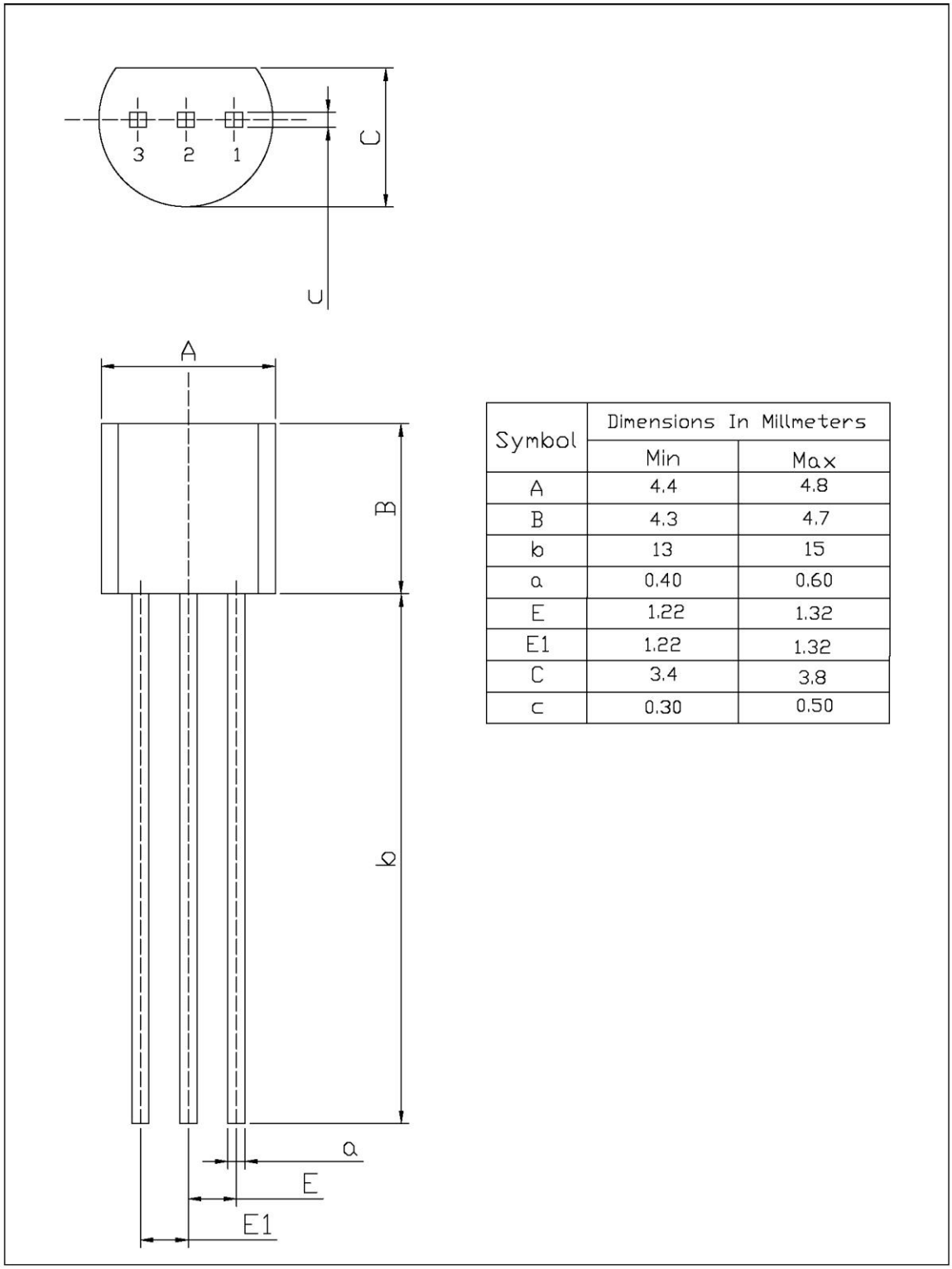
Package Type	Units					Dimension (unit: mm3)		
	Units/Bag	Bags/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Bag	Inner Box	Outer Box
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375

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 Outline Dimensions

TO-92 Unit: mm



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