

/ Descriptions

TO-92 NPN Silicon NPN transistor in a TO-92 Plastic Package.

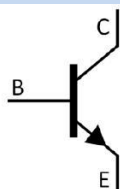
/ Features

High voltage.

/ Applications

High voltage control circuit.

/ Equivalent Circuit



/ Pinning



PIN1 Collector PIN 2 Base PIN 3 Emitter

/ hFE Classifications & Marking

See Marking Instructions.

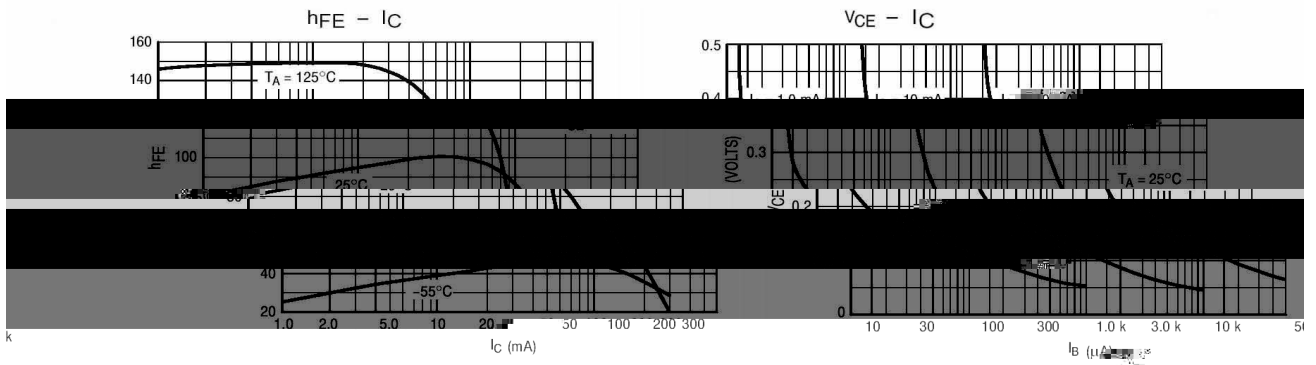
/ Absolute Maximum Ratings(Ta=25)

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 Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=100\mu A$ $I_E=0$	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}	$I_E=10\mu A$ $I_C=0$	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

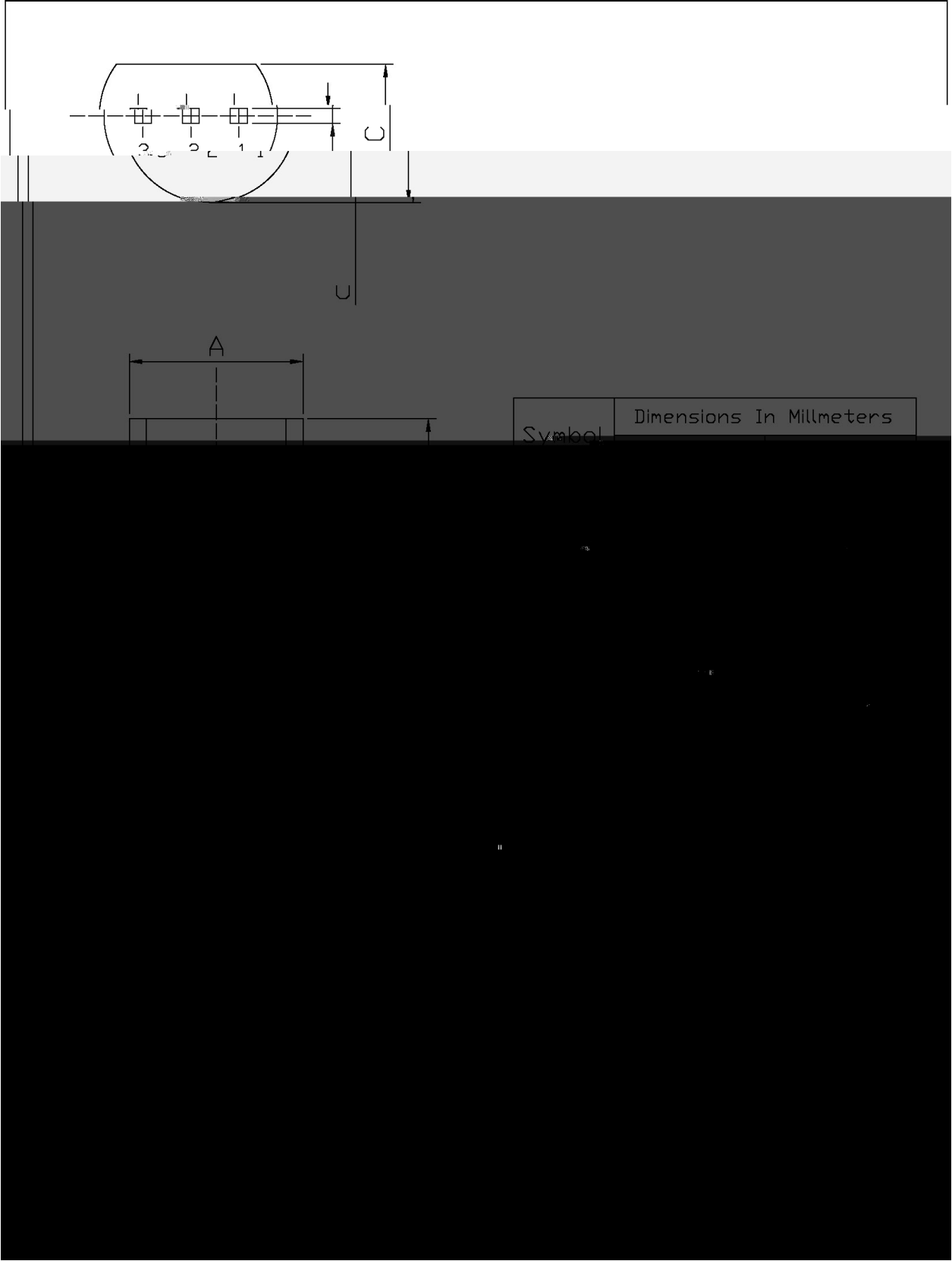
/ Electrical Characteristic Curve



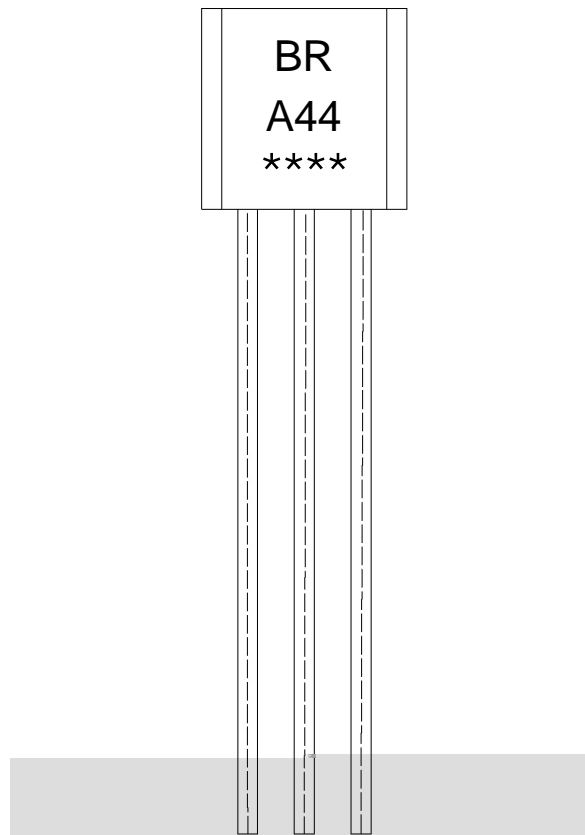
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



BR:

A44

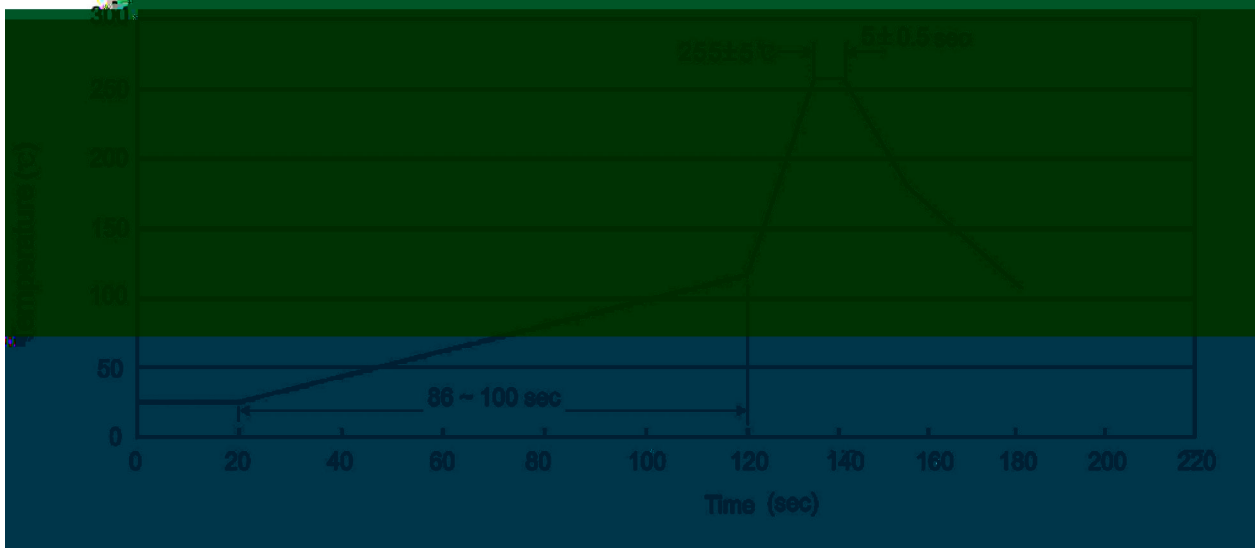
Note:

BR: Company Code.

A44: Product Type.

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

() / **Temperature Profile for Dip Soldering(Pb-Free)**



Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. | |
| 3 | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. | |

/ **Resistance to Soldering Heat Test Conditions**

270±5 10±1 sec. Temp:270±5 Time:10±1 sec

/ **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

/ **Notices**