

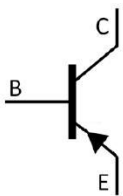
/ Descriptions

Silicon PNP transistor in a TO-92 Plastic Package.

/ Features

Switching Transistors.

General purpose amplifier applications.



PIN1 Collector PIN 2 Base PIN 3 Emitter

/ hFE Classifications & Marking

See Marking Instructions.

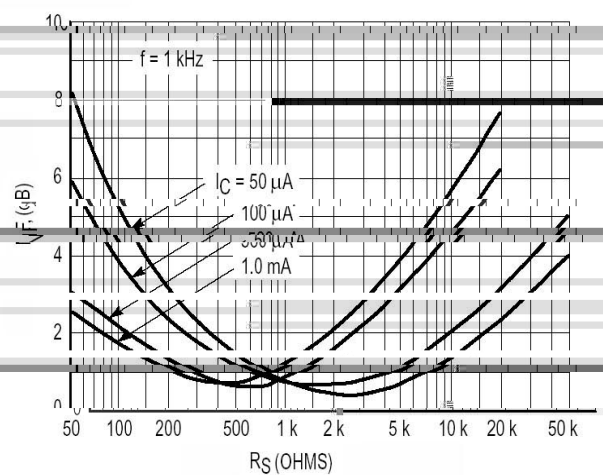
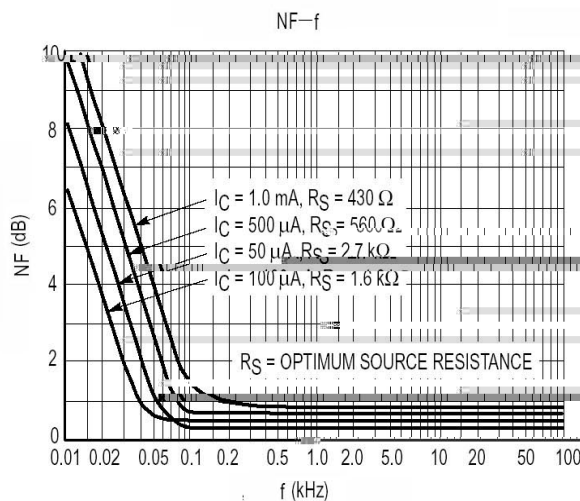
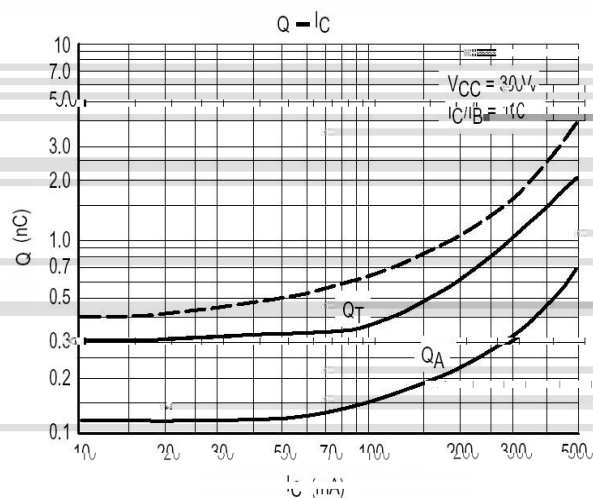
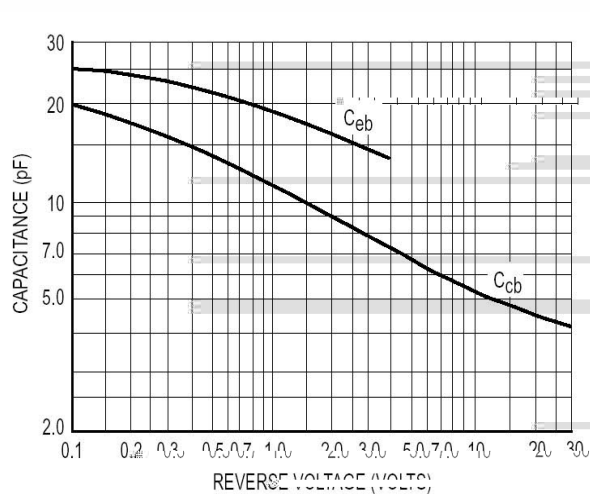
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-25	V
Collector to Emitter Voltage	V_{CEO}	-25	V
Emitter to Base Voltage	V_{EBO}	-4.0	V
Collector to Emitter Voltage($V_{BE}=0$)	V_{CES}	-25	V
Collector Current - Continuous	I_C	-500	mA
Total Device Dissipation	P_D	625	mW
Junction Temperature	T_j T_{stg}	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage($V_{BE}=0$)	V_{CES}	$I_C=-100\mu A$ $V_{BE}=0$	-25			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=-10mA$ $I_B=0$	-25			V
Collector–Base Breakdown Voltage	V_{CBO}	$I_C=-100\mu A$ $I_E=0$	-25			V
Emitter–Base Breakdown Voltage	V_{EBO}	$I_E=-100\mu A$ $I_C=0$	-4.0			V
Collector Cutoff Current	I_{CES}	$V_{CE}=-15V$ $V_{BE}=0$	-0.035			μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-3.0V$ $I_C=0$	-0.035			μA
Base Current	I_B	$V_{CE}=-15V$ $V_{BE}=0$	-0.035			μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-1.0V$ $I_C=-50mA$	100			
	$h_{FE(2)}$	$V_{CE}=-10V$ $I_C=-1.0mA$	80			
	$h_{FE(3)}$	$V_{CE}=-10V$ $I_C=-10mA$	100			
	$h_{FE(4)}$	$V_{CE}=-2.0V$ $I_C=-300mA$	20			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=-50mA$ $I_B=-2.5mA$			-0.25	V
	$V_{CE(sat)(2)}$	$I_C=-300mA$ $I_B=-30mA$			-1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=-50mA$ $I_B=-2.5mA$			-1.1	V
	$V_{BE(sat)(2)}$	$I_C=-300mA$ $I_B=-30mA$	-0.8		-2.0	V

/ Electrical Characteristics(Ta=25)

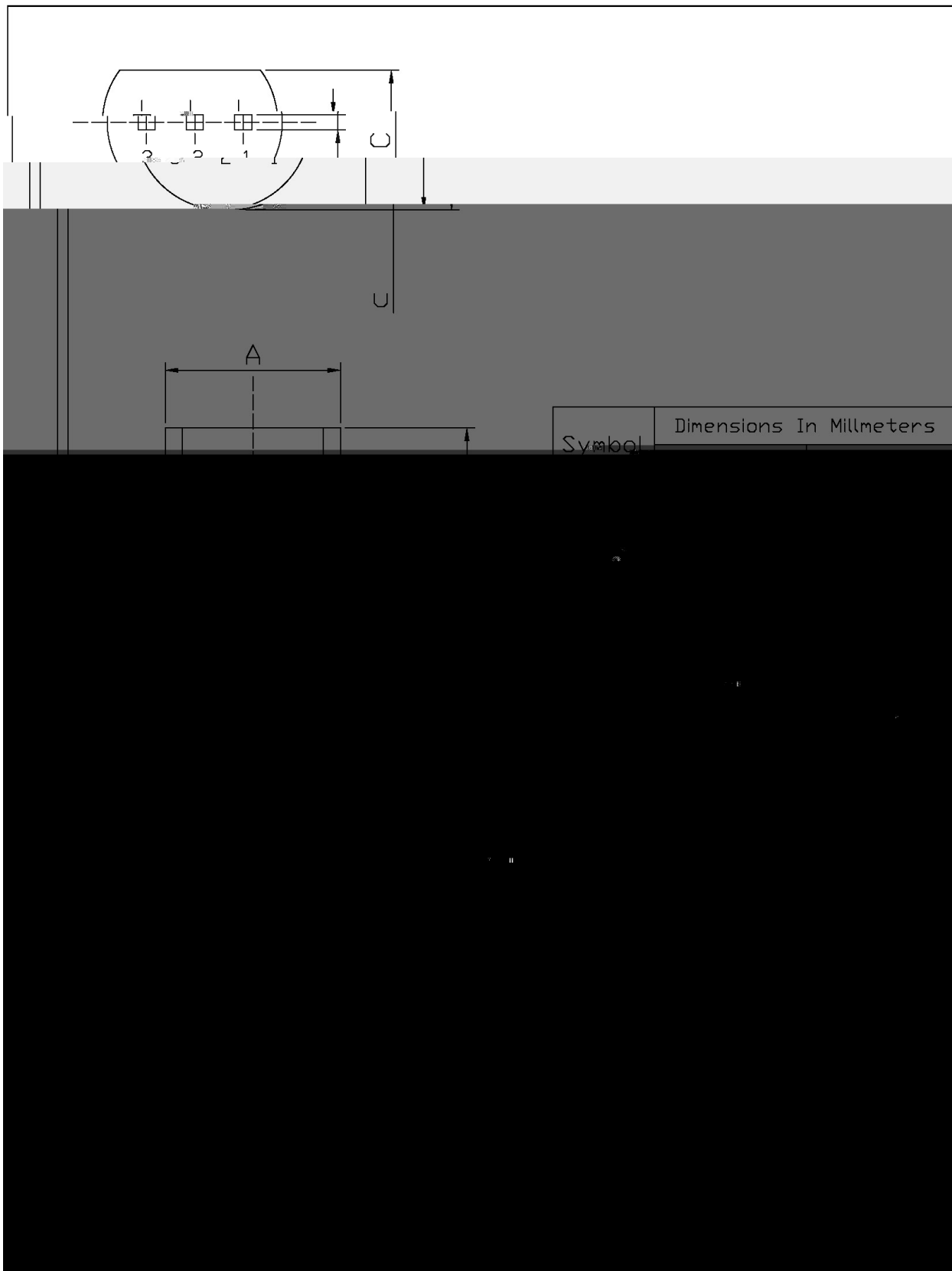
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Transition Frequency	f_T	$V_{CE}=-3V$ $I_C=-50mA$ $f=100MHz$	150			MHZ
Output Capacitance	C_{obo}	$V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$			10	pF
Input Capacitance	C_{ibo}	$V_{EB}=-0.5V$ $I_C=0$ $f=1.0MHz$			25	pF
Delay Time	t_d	$V_{CC}=-10V$ $I_C=-300mA$ $I_{B1}=-30mA$			20	ns
Rise Time	t_r				70	ns
Storage Time	t_s	$V_{CC}=-10V$ $I_{B1}=-30mA$ $I_C=-300mA$ $I_{B2}=30mA$			140	ns
Fall Time	t_f				70	ns
Turn-On Time	t_{on}	$I_C=-300mA$ $I_{B1}=-30mA$			75	ns
Turn-Off Time	t_{off}	$I_C=-300mA$ $I_{B1}=-30mA$ $I_{B2}=30mA$			170	ns

/ **Electrical Characteristic Curve**

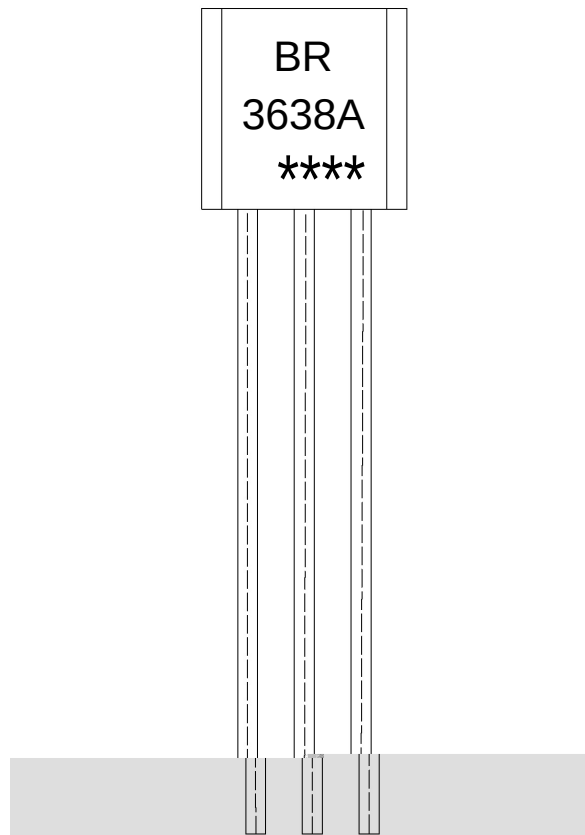


T O - 92

Unit: mm



/ Marking Instructions

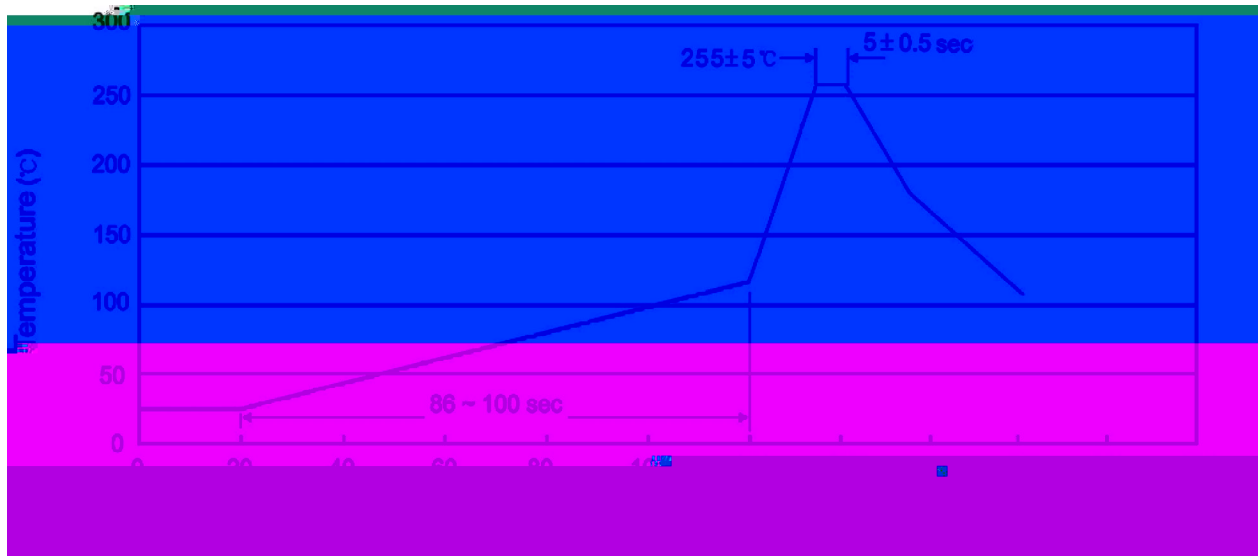


Note:

BR: Company Code.

3638A: 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)	
	Units/tape 只/纸带	Tape/Inner Box 纸带/盒	Rows/Inner Box 纸带层/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Inner Box 盒	Outer Box 箱
TO-92	3,000	1	120	10	30,000	328×230×42	小箱 480×346×235, 大箱 547×407×268

/ Notices