

/ Descriptions

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

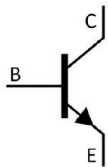
/ Features

Small noise figure, high power gain, high f_T .

/ Applications

UHF low-noise amplifiers, wide-band amplifiers.

/ Equivalent Circuit



/ Pinning



PIN1 Collector PIN 2 Emitter PIN 3 Base

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	C	D	E
h_{FE} Range	40~80	60~120	100~200

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	20	V
Collector to Emitter Voltage	V_{CEO}	12	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current - Continuous	I_C	100	mA
Base Current - Continuous	I_B	40	mA
Collector Power Dissipation	P_C	600	mW
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-55 150	

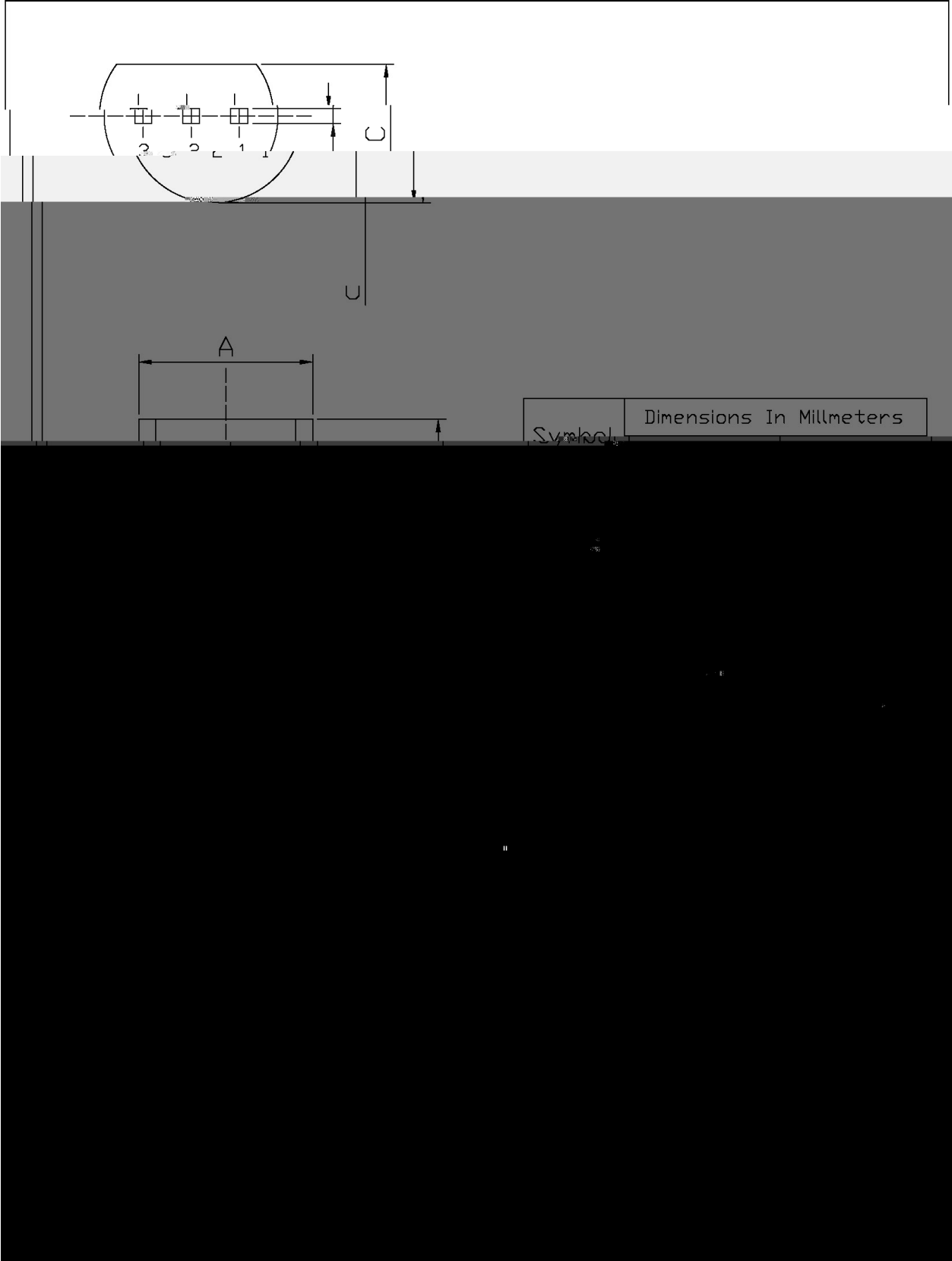
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=12V$ $I_E=0$			1.0	A
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=2.0V$ $I_C=0$			10	A
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=20mA$	40		200	
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=20mA$		5.0		GHz
Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$		1.0		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=10V$ $f=1.0MHz$		0.7		pF
Forward Transfer Gain	$ S_{21e} ^2$	$V_{CE}=10V$ $f=0.9GHz$ $I_C=20mA$	8.5	10		dB
Maximum Available Power Gain	MAG	$V_{CE}=10V$ $f=0.9GHz$ $I_C=20mA$		14		dB
Noise Figure	NF	$V_{CE}=10V$ $f=0.9GHz$ $I_C=5.0mA$		1.5	3.0	dB

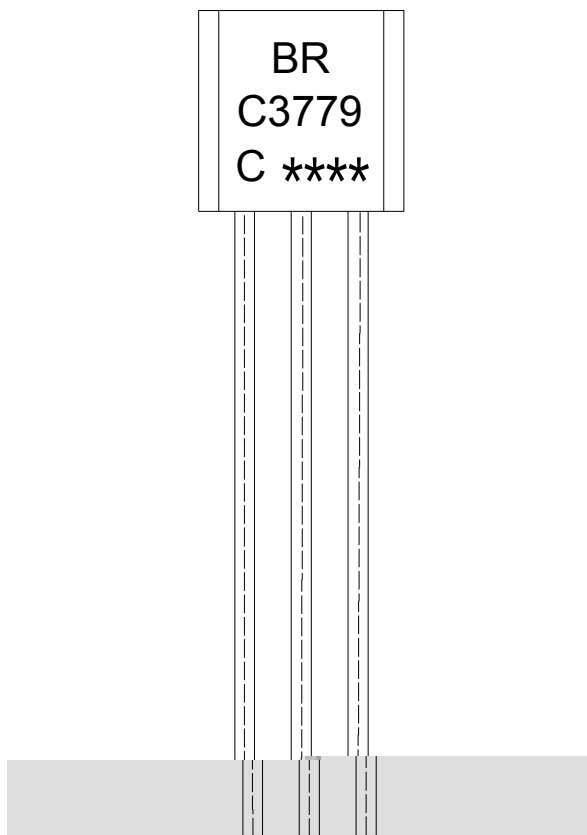
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



BR:

C3779

C: h_{FE}

Note:

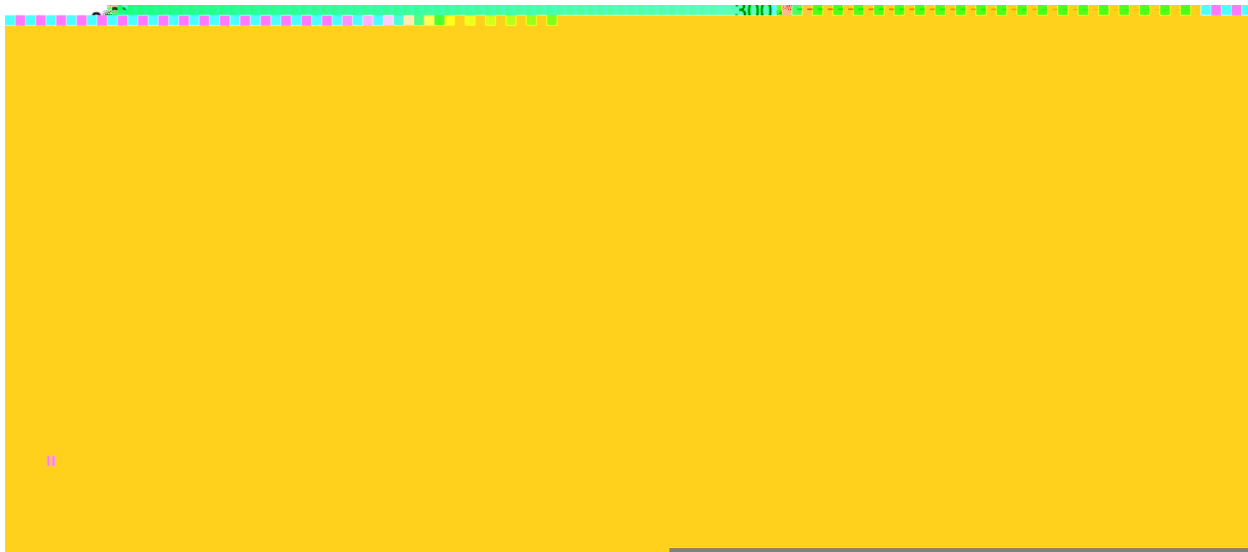
BR: Company Code.

C3779: Product Type.

C: h_{FE} Classifications Symbol.

****: 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