

2SA778(A)
Rev.E Mar.-2016

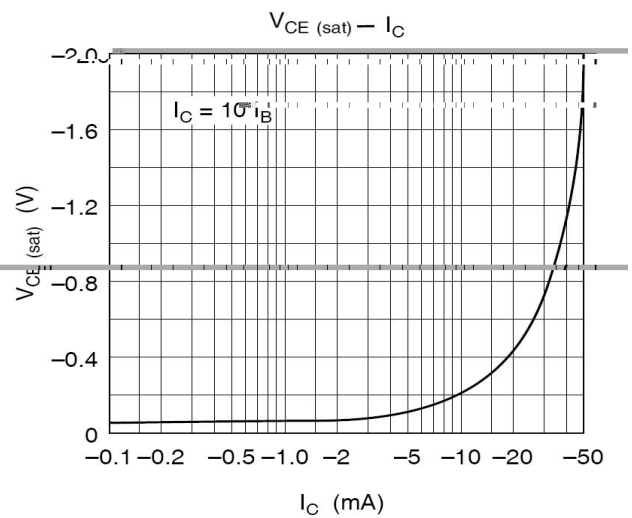
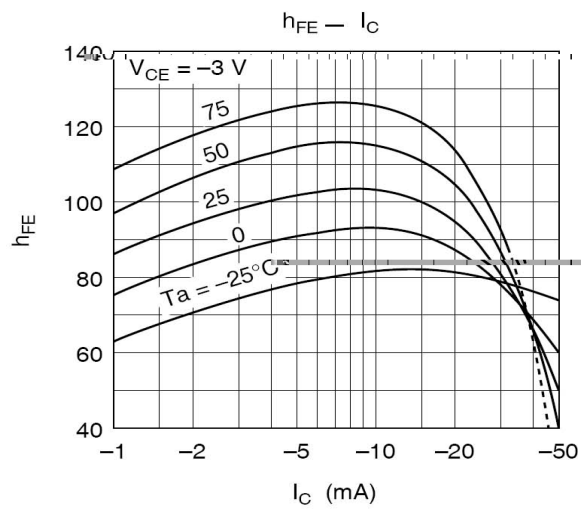
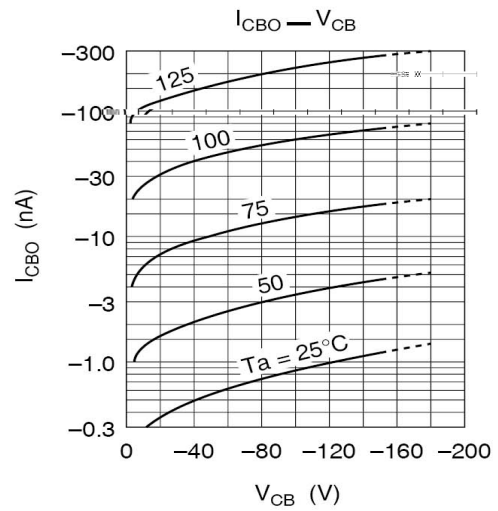
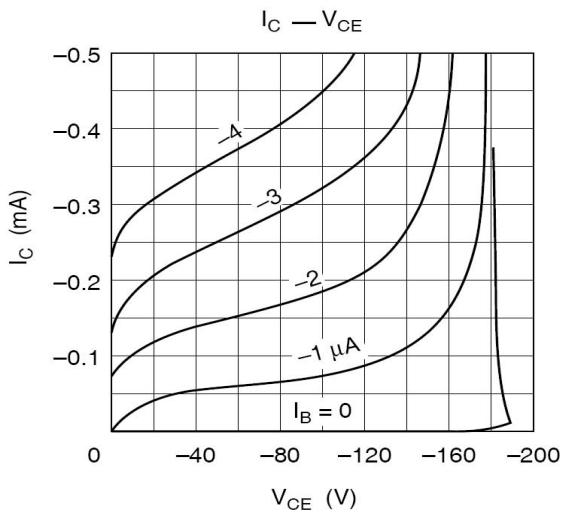
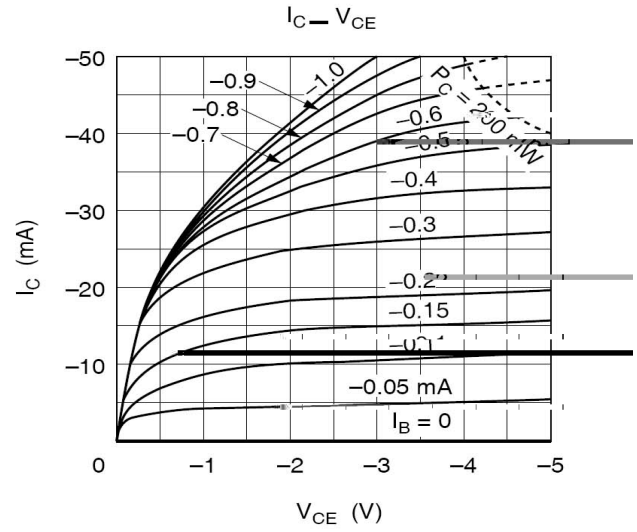
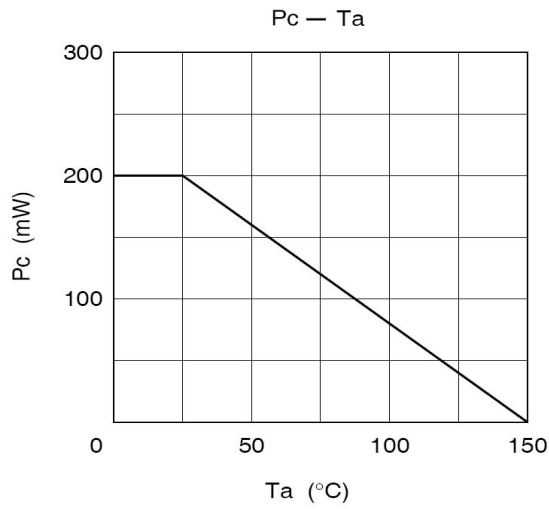
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	2SA778 -150	V
		2SA778A -180	
Collector to Emitter Voltage	V_{CEO}	2SA778 -150	V
		2SA778A -180	
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_C	-50	mA
Collector Power Dissipation	P_C	200	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 to Base Breakdown Voltage	V_{CBO}	2SA778 $I_C=-50\text{ A } I_E=0$	-150			V
		2SA778A	-180			
Collector to Emitter Breakdown Voltage	V_{CBO}	2SA778 $I_C=-50\text{ A } I_E=0$	-150			V
		2SA778A	-180			
Collector Cut-Off Current	I_{CBO}	2SA778 $V_{CB}=-100V I_E=0$			-0.1	A
		2SA778A $V_{CB}=-150V I_E=0$				
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-5.0V I_C=0$			-1.0	A
DC Current Gain	h_{FE}	2SA778 $V_{CE}=-3.0V I_C=-15mA$	30	100		
		2SA778A	40	100	200	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-15mA I_B=-1.0mA$		-0.3	-1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-15mA I_B=-1.0mA$		-0.77	-1.0	V
Transition Frequency	f_T	$V_{CE}=-3.0V I_C=-15mA$		50		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V I_E=0$ $f=1.0MHz$			10	pF
Turn On Time	t_{on}	$V_{CC}=-10.3V I_C=10$ $I_{B1}=-10 I_{B2}=-10mA$		135		ns
Turn Off Time	t_{off}	$V_{CC}=-10.3V I_C=10$ $I_{B1}=-10 I_{B2}=-10mA$		1.7		s
Storage Time	t_{stg}	$V_{CC}=-10V I_C=-17mA$ $I_{B1}=-1.0mA I_{B2}=12mA$			1.0	s

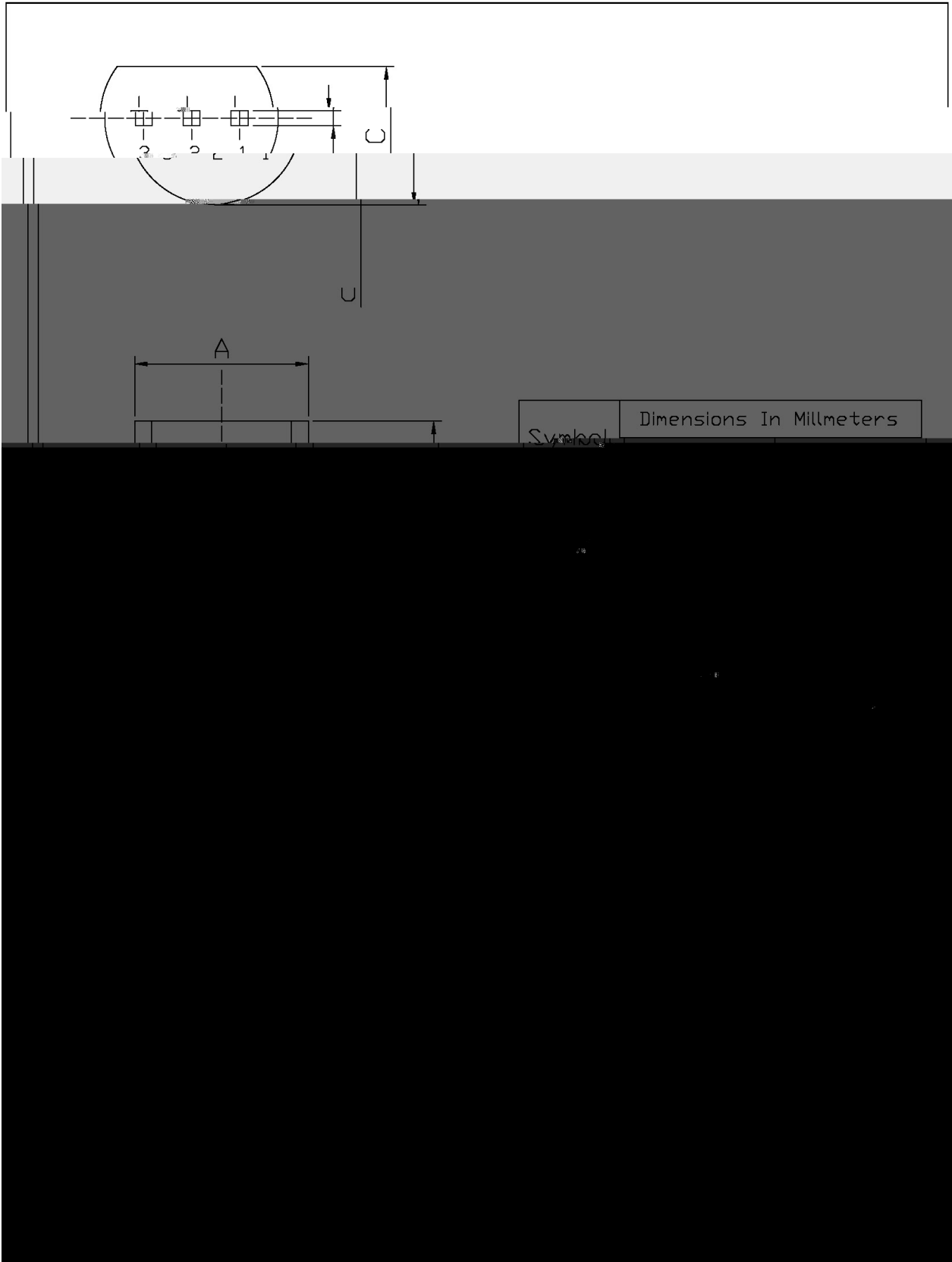
/ Electrical Characteristic Curve



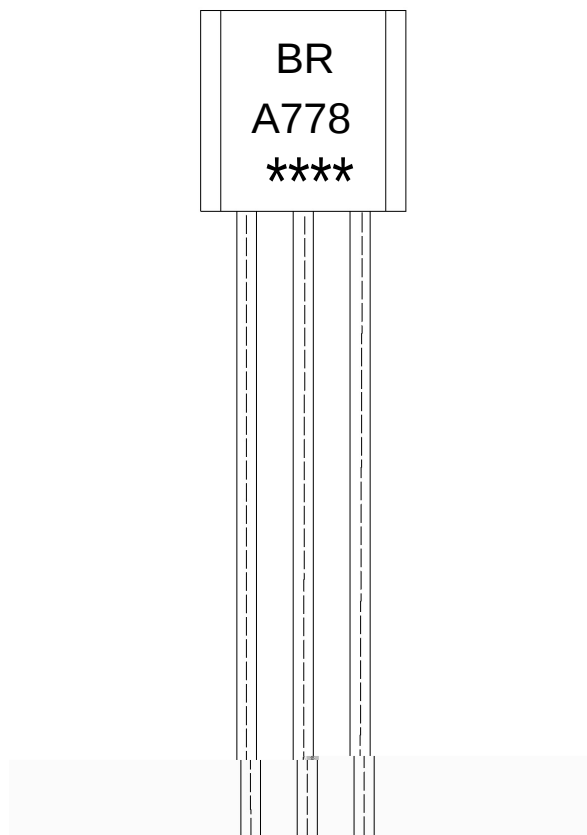
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



BR:

A778

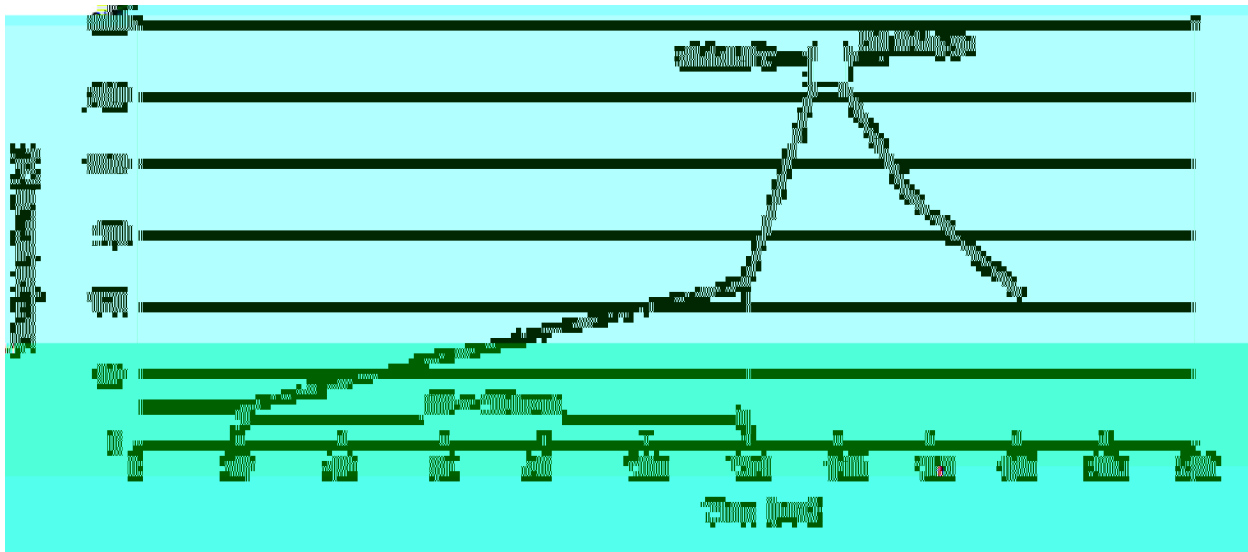
Note:

BR: Company Code.

A778: 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