2SC3902

Rev.E Mar.-2016

DATA SHEET

/ Descriptions

TO-126F NPN Silicon NPN transistor in a TO-126F Plastic Package.

/ Features

2SA1507

High V_{CEO}, Large I_C, complementary to 2SA1507.

/ Applications

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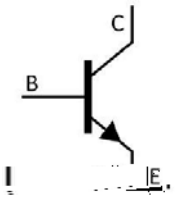
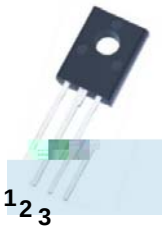
Color TV audio output, converters, inverters.

/ Equivalent Circuit



/ Pinning



PIN1 Emitter PIN 2 Collector PIN 3 Base

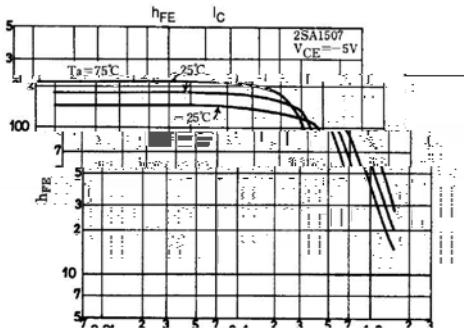
/ h_{FE} Classifications & Marking

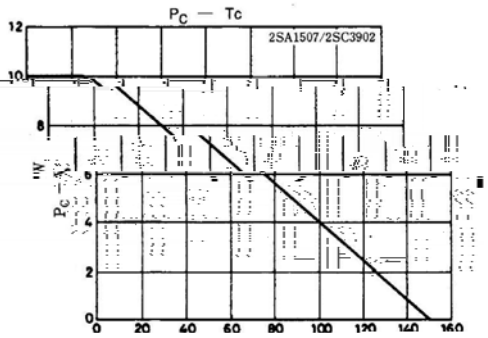
h_{FE} Classifications Symbol	R	S	T
h_{FE} Range	100 200	140 280	200 400

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	180	V
Collector to Emitter Voltage	V_{CEO}	160	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	1.5	A
Collector Current – Continuous(Pulse)	I_{CP}	2.5	A
Collector Power Dissipation	P_C	1.5	W
Collector Power Dissipation	$P_C(T_C=25℃)$	10	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 150	℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=10μA I_E=0	180			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=1.0mA I_B=0	160			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}=120V I_E=0			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}=5.0V I_C=100mA	100		400	
	$h_{FE(2)}$	V_{CE}=5.0V I_C=10mA	90			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=500mA I_B=50mA		0.13	0.45	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=500mA I_B=50mA		0.85	1.2	V
Transition Frequency	f_T	V_{CE}=10V I_C=50mA		120		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V f=1.0MHz		14		pF
Turn-On Time	t_{on}	I_C=10I_{B1}=-10I_{B2}=700mA		0.04		μs
Storage Time	t_{stg}			1.2		
Fall Time	t_f			0.08		

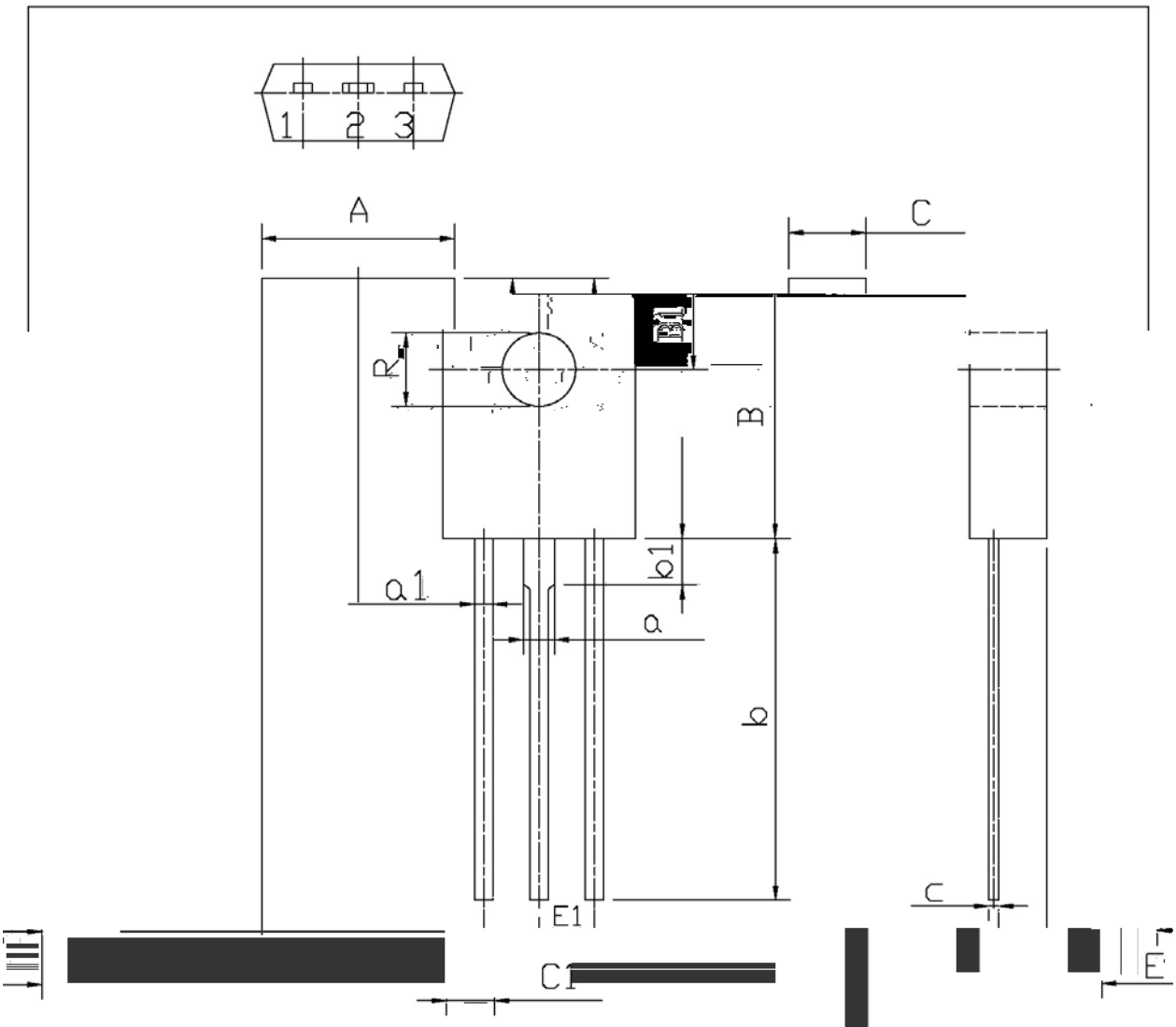
/ Electrical Characteristic Curve





/ Package Dimensions

TO-126F 单位：mm

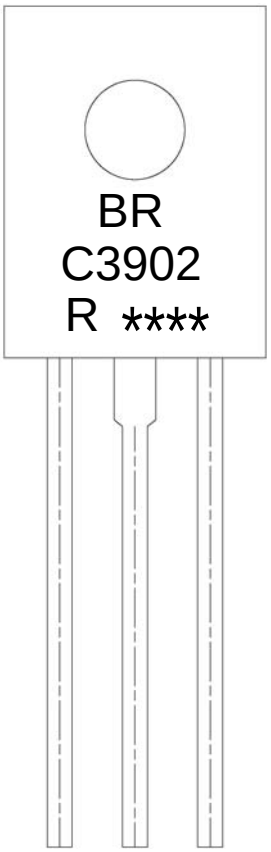


Symbol	Min	Max
a1	0.66	0.86
E	4.4	4.8
C	3.1	3.3
C1	1.9	2.1

b1	1.9	a	1.27
E1	2.1	2.5	

Symbol	Max
A	7.
B	10
B1	3.
R	2.

/ Marking Instructions



BR

C3902

R: h_{FE}

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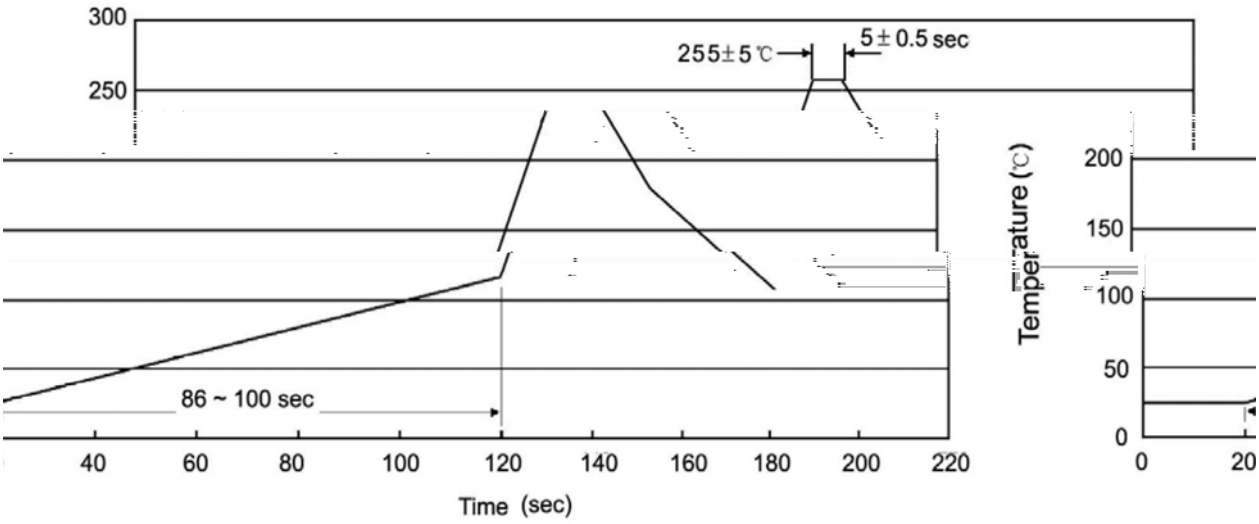
Note:

BR:	Company Code
C3902:	Product Type.
R:	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	Units					Dimension		(unit mm^3)
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-126/F	500	6	3,000	5	15,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension		(unit mm^3)
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-126/F	65	26	1,690	5	8,450	532×31×5.6	555×164×50	575×290×180

/ Notices