/ Descriptions

SOT-23 NPN Silicon NPN transistor in a SOT-23 Plastic Package.

/ Features

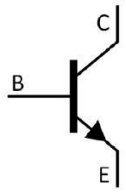
2SA1981S

High h_{FE}, complementary pair with 2SA1981S.

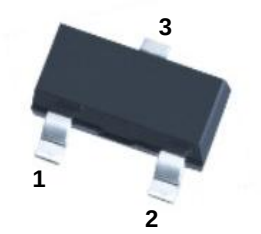
/ Applications

Audio power amplifier application.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Emitter PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	O	Y
h_{FE} Range	100 200	160 320
Marking	HFAO	HFAY

/ Absolute Maximum Ratings(Ta=25)

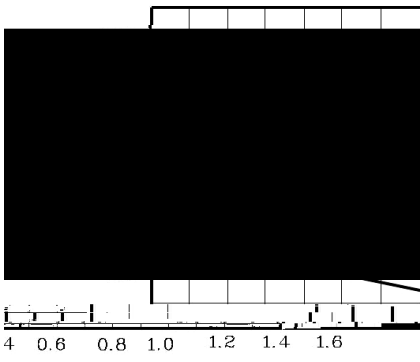
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	35	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	800	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

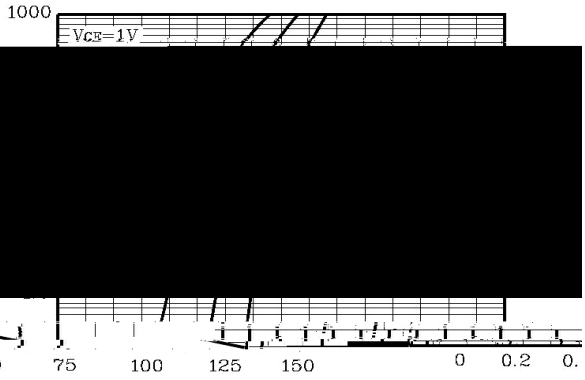
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=100 A I_E=0	35			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=1.0mA I_B=0	30			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=10 A I_C=0	5.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=35V I_E=0			0.1	A
Emitter Base Cut-Off Current	I_{EBO}	V_{EB}=5.0V I_C=0			0.1	A
DC Current Gain	h_{FE}	V_{CE}=1.0V I_C=100mA	100		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA I_B=50mA			0.5	V
Transition Frequency	f_T	V_{CE}=5.0V I_C=10mA		120		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V I_E=0 f=1.0MHz		13		pF

/ Electrical Characteristic Curve

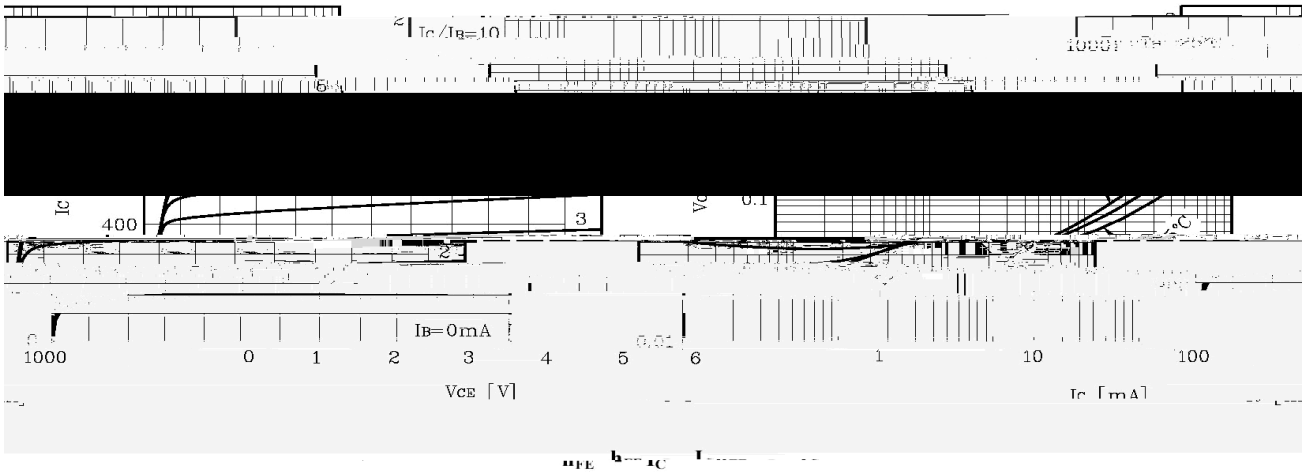
P_C - T_a



I_C - V_{BE}

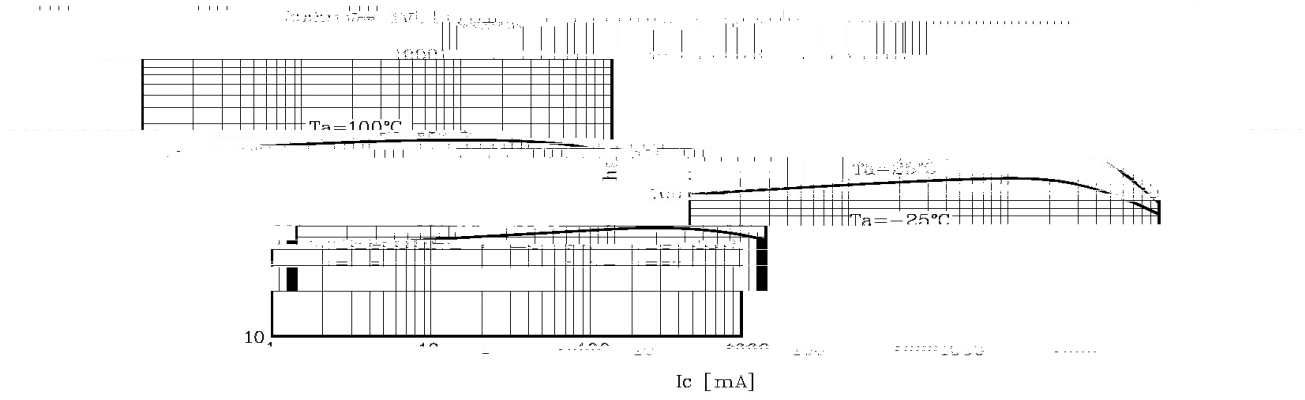


$V_{CE(sat)}$ - I_C



I_C - V_{CE}

h_{FE} - I_C



/ Marking Instructions



H

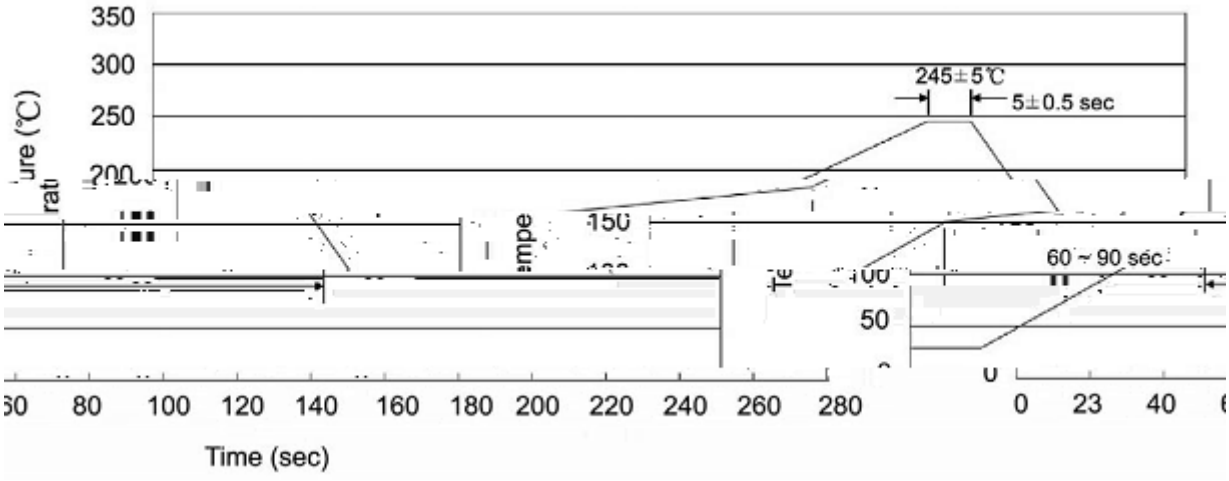
FA

O h_{FE}

Note:

H	Company Code
FA	Product Type Code
O	h_{FE} Classifications Symbol Code

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

1	25	150	60	90sec;	1.Preheating:25~150 , Time:60~90sec.
2	245±5			5±0.5sec;	2.Peak Temp.:245±5 , Duration:5±0.5sec.
3		2	10	/sec.	3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices