

/ Descriptions

Silicon PNP transistor in a SOT-23 Plastic Package.

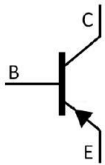
/ Features

High breakdown, low $V_{CE(sat)}$, complements the 2SD1782K.

/ Applications

Medium power amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Emitter PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	Q	R
h_{FE} Range	120~270	180~390
Marking	HAKQ	HAKR

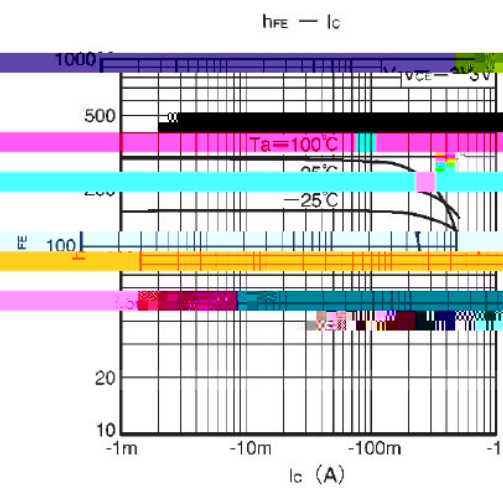
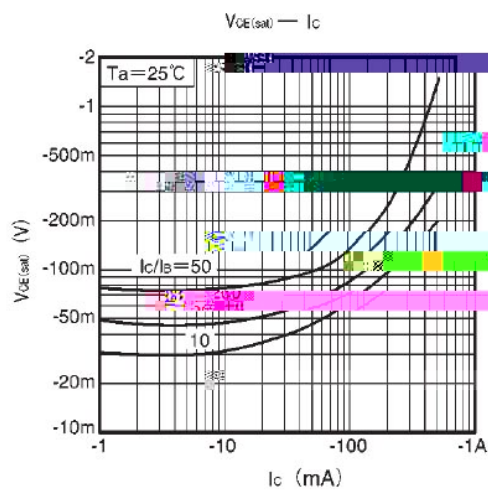
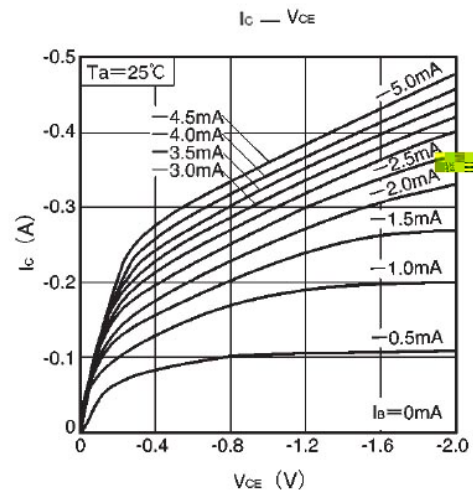
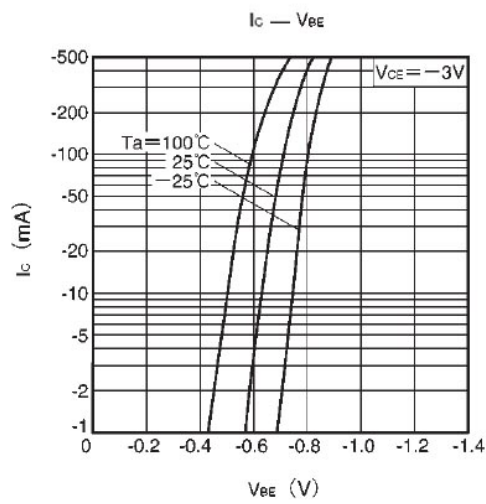
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-80	V
Collector to Emitter Voltage	V_{CEO}	-80	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current - Continuous	I_C	-500	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}	$I_C = -50\mu A$	-80			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C = -2mA$	-80			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -50\mu A$	-5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -50V$ $I_E = 0$			-0.5	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB} = -4.0V$ $I_C = 0$			-0.5	μA
DC Current Gain	h_{FE}	$V_{CE} = -3.0V$ $I_C = -100mA$	120		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500mA$ $I_B = -50mA$		-0.2	-0.5	V
Transition Frequency	f_T	$I_C = -50mA$ $f = 100MHz$ $V_{CE} = -10V$		180		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V$ $I_E = 0$ $f = 1.0MHz$		11		pF

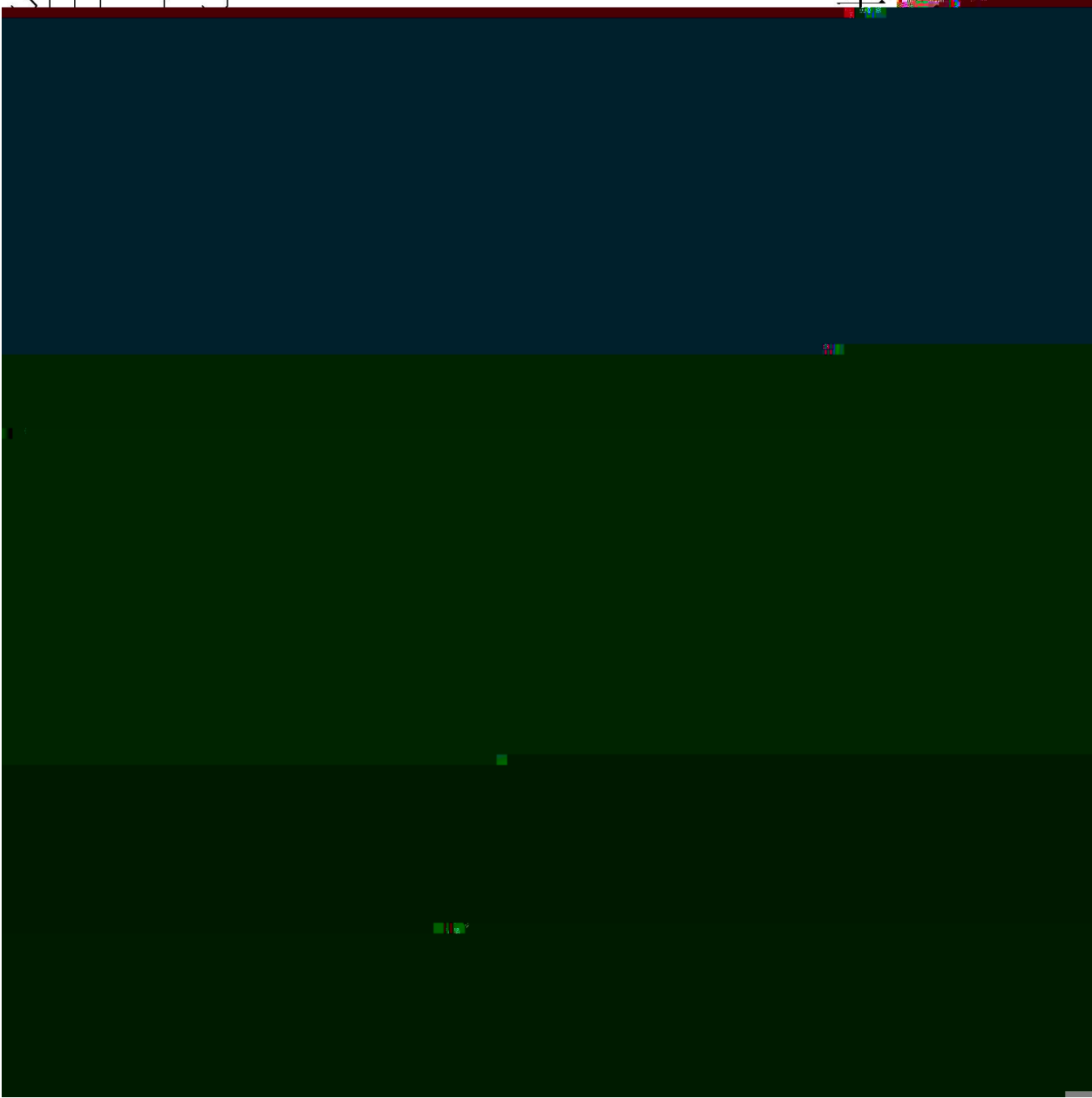
/ Electrical Characteristic Curve



/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



h_{FE}

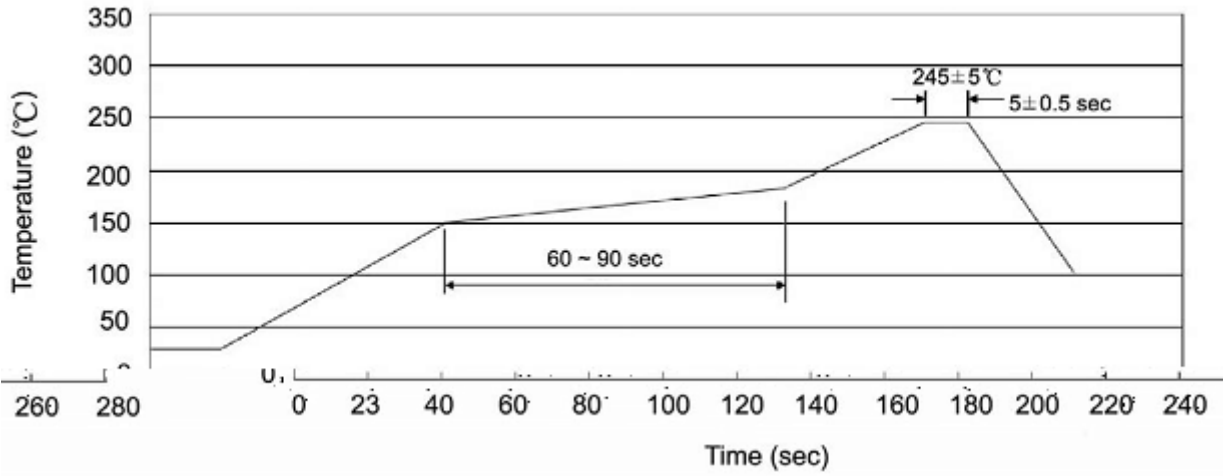
Note:

H: Company Code

AK: Product Type Code

R: 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" x8	180×120×180	390×385×205

/ Notices