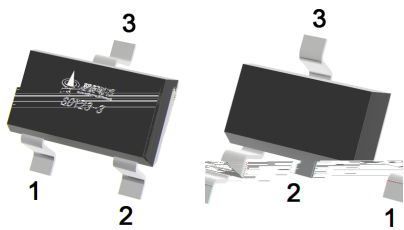
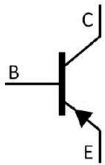


Silicon PNP transistor in a SOT23-3 Plastic Package.

High breakdown, low $V_{CE(sat)}$, complements the BR2SD1782MC, HF Product.

Medium power amplifier applications.

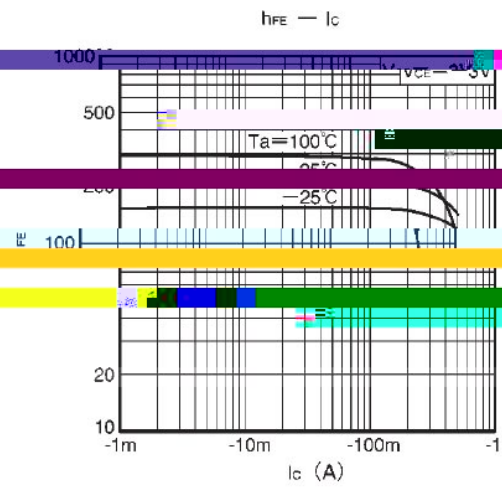
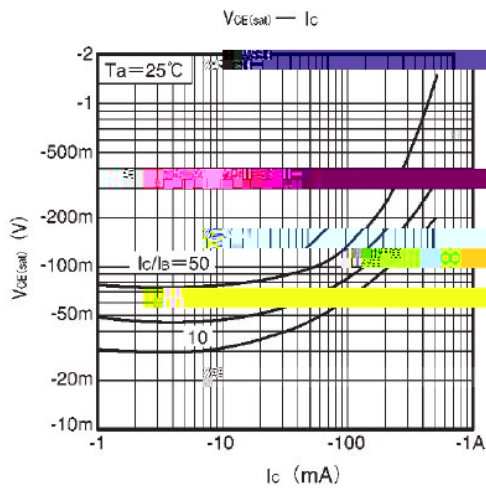
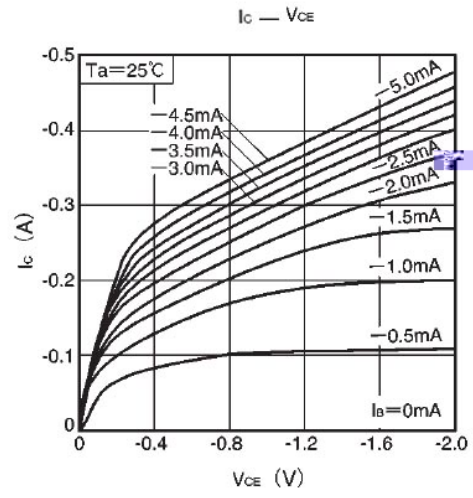
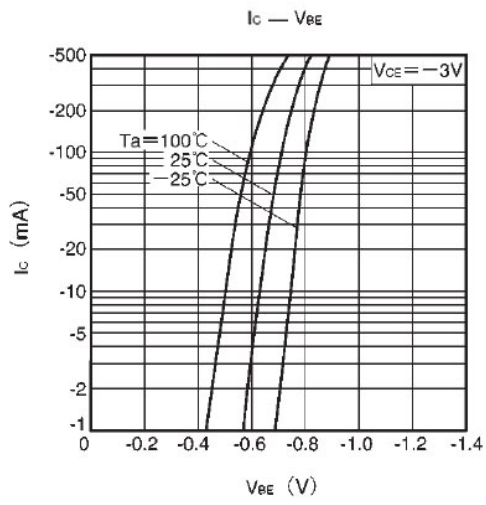


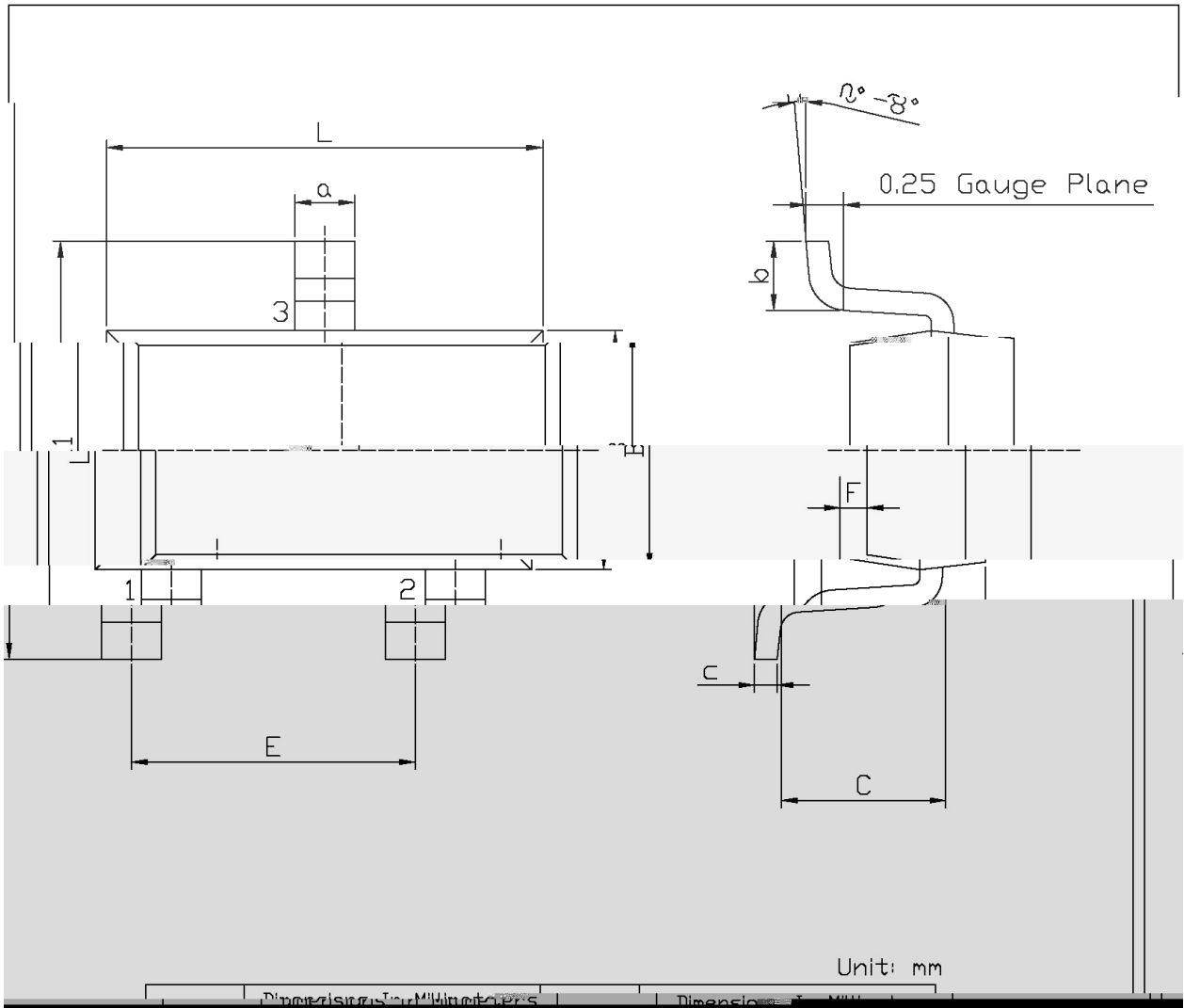
PIN1 Base PIN 2 Emitter PIN 3 Collector

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

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	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C = -50\text{ A}$	-80			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C = -2\text{mA}$	-80			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -50\text{ A}$	-5			V
Collector Base Cut-Off Current	I_{CBO}	$V_{CB} = -50\text{ V}$ $I_E = 0$			-0.5	A
Collector Emitter Cut-Off Current	I_{CEO}	$V_{CE} = -65\text{ V}$ $I_B = 0$			-5	A
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB} = -4.0\text{V}$ $I_C = 0$			-0.5	A
DC Current Gain	h_{FE}	$V_{CE} = -3.0\text{V}$ $I_C = -100\text{mA}$	120		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}$ $I_B = -50\text{mA}$			-0.5	V
Transition Frequency	f_T	$I_C = -50\text{mA}$ $f = 100\text{MHz}$ $V_{CE} = -10\text{V}$		180		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}$ $f = 1.0\text{MHz}$ $I_E = 0$		11		pF





Dimension	Unit	Dimension	Unit
2.82	mm	2.00	mm
0.05	mm	0.50	mm



h_{FE}

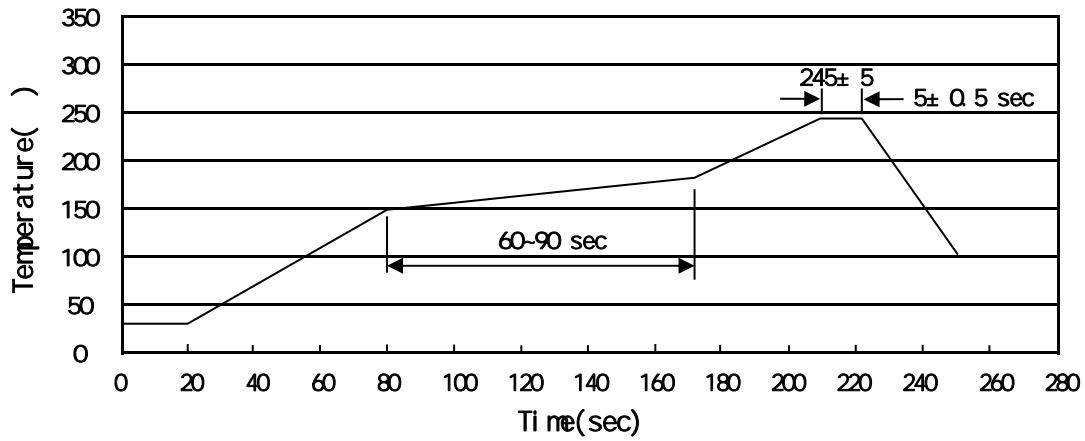
Note:

H: Company Code

AK: Product Type Code

R: h_{FE} Classifications Symbol Code

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-----|-----|----|----------|---|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 , 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. |

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

/ REEL

Package Type	Units					Dimension (unit mm ³)		
SOT-23-3	3,000	10	30,000	4	120,000	7 x8	210x205x205	445x230x435