

/ Descriptions

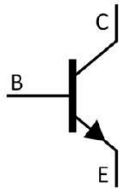
SOT-23

NPN

Silicon NPN transistor in a SOT-23 Plastic Package.

/ FeaturesHigh current, low $V_{CE(sat)}$ **/ 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	S
h_{FE} Range	120 270	180 390	270 560
Marking	HYQ	HYR	HYS

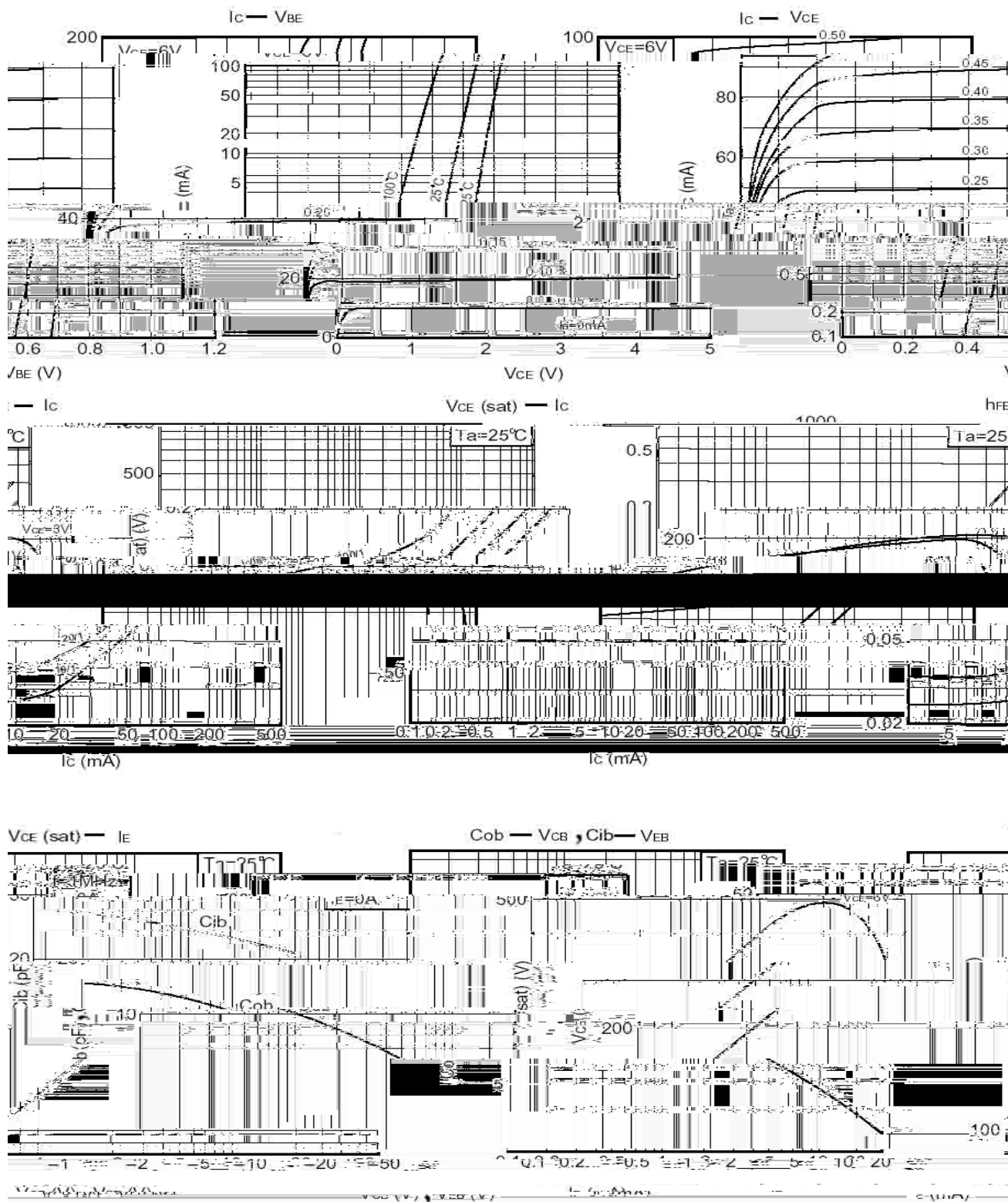
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	0.5	A
Collector Power Dissipation	P_C	0.2	W
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-Base Breakdown Voltage	V_{CBO}	$I_C=0.1mA$ $I_E=0$	50			V
Collector-emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	50			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E=0.1mA$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30V$ $I_E=0$			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}	$V_{CE}=3.0V$ $I_C=0.1A$	120		560	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=150mA$ $I_B=15mA$			0.4	V
Transition Frequency	f_T	$V_{CE}=5V$ $f=100MHz$ $I_C=20mA$		250		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		6.5		pF

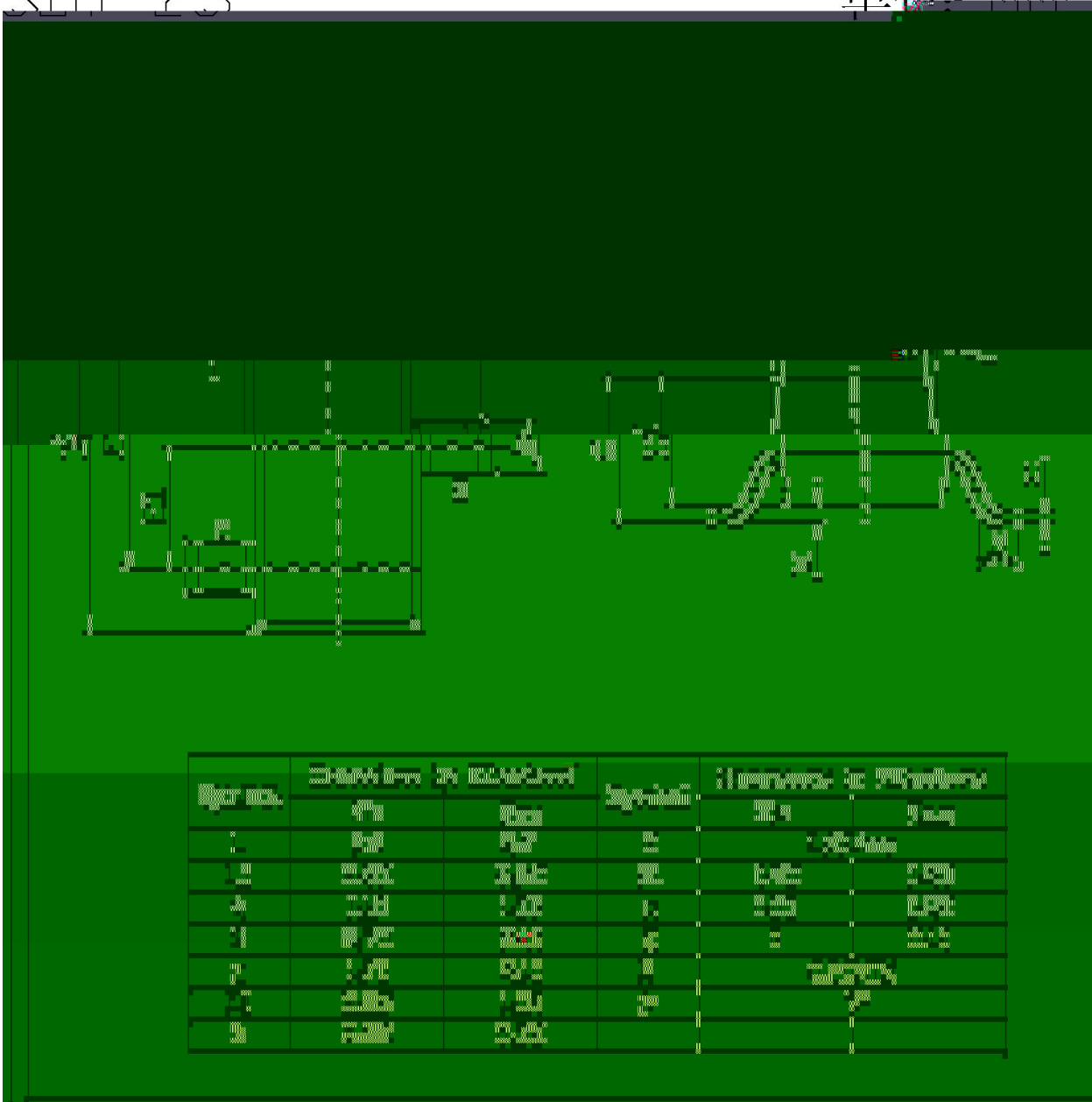
/ Electrical Characteristic Curve



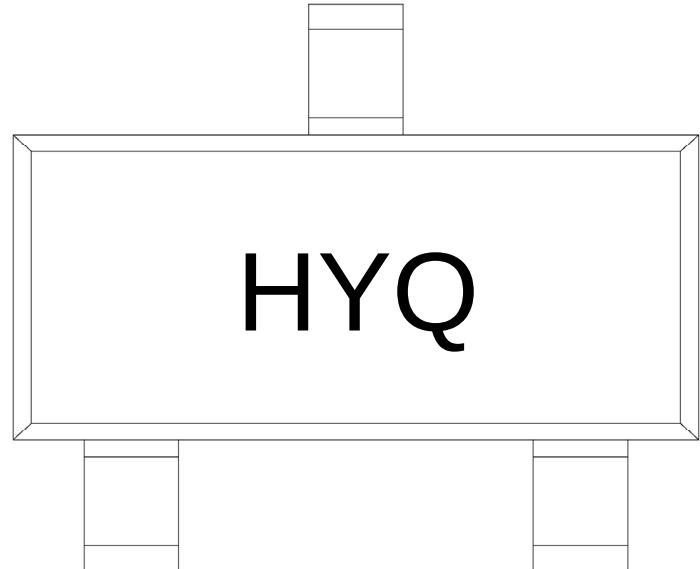
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



H

Y

Q: h_{FE}

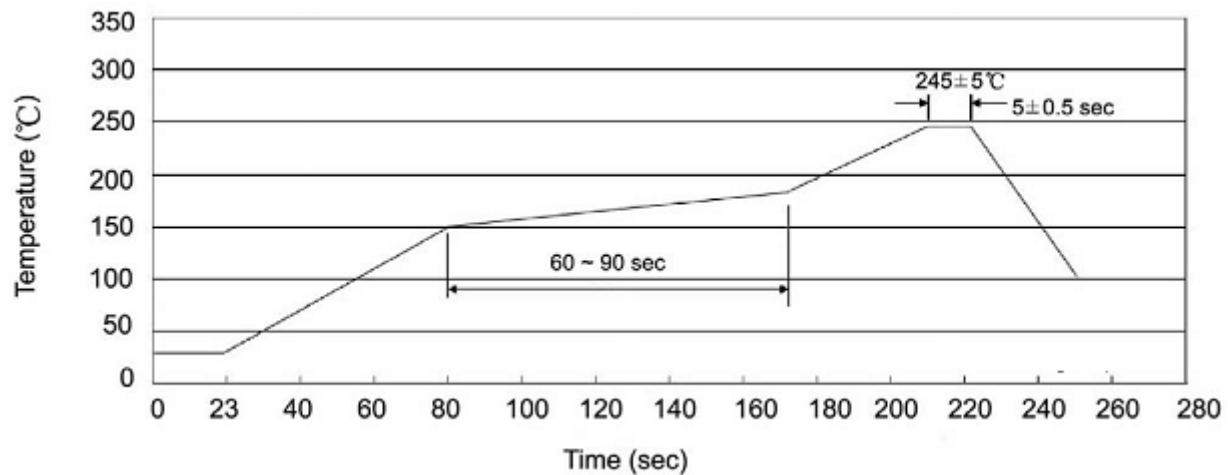
Note:

H: Company Code

Y: Product Type Code

Q: 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)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱

/ **Notices**