/ Descriptions

VRW056 Ṃ Ṃ Ŀ QSQ Æ Ṁ ɥ s ǁ ˥ Silicon NPN transistor in a SOT-23 Plastic Package.

/ Features

´ ǁ ɔ ǁ ɯ ` ɚ / ǁ Ḅ ⌧ k ꞁ ꞁ ǿ / Ḥ ʒ ɸ ˥ Ω̣

High DC current gain, excellent h_{FE} linearity, low noise.

/ Applications

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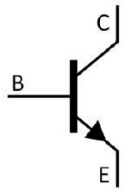
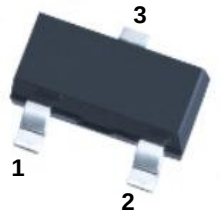
General amplifier and switching application.

/ Equivalent Circuit



/ Pinning



PIN 1 χ Base PIN 2 χ Emitter PIN 3 χ Collector

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	O	Y	GR	BL
h_{FE} Range	70 140	120 240	200 400	350 700
Marking	HHFO	HHFY	HHFG	HHFB

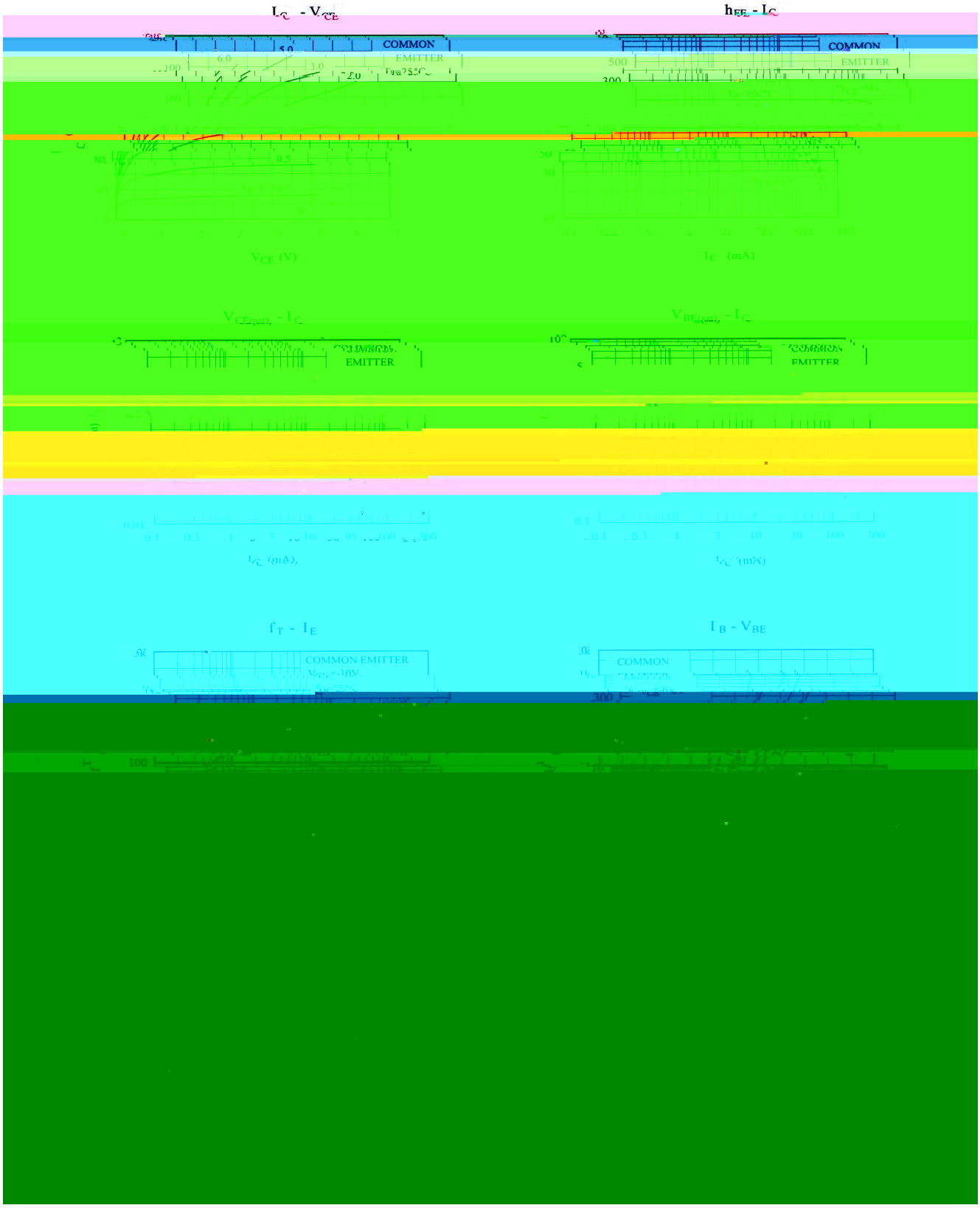
/ Absolute Maximum Ratings(Ta=25)

v ̈Ω̣ Parameter	ɬ N Symbol	̈Ω̣Ö Rating	D Ɉ 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	150	mA
Emitter Current	I_E	-150	mA
Collector Power Dissipation	P_C	250	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

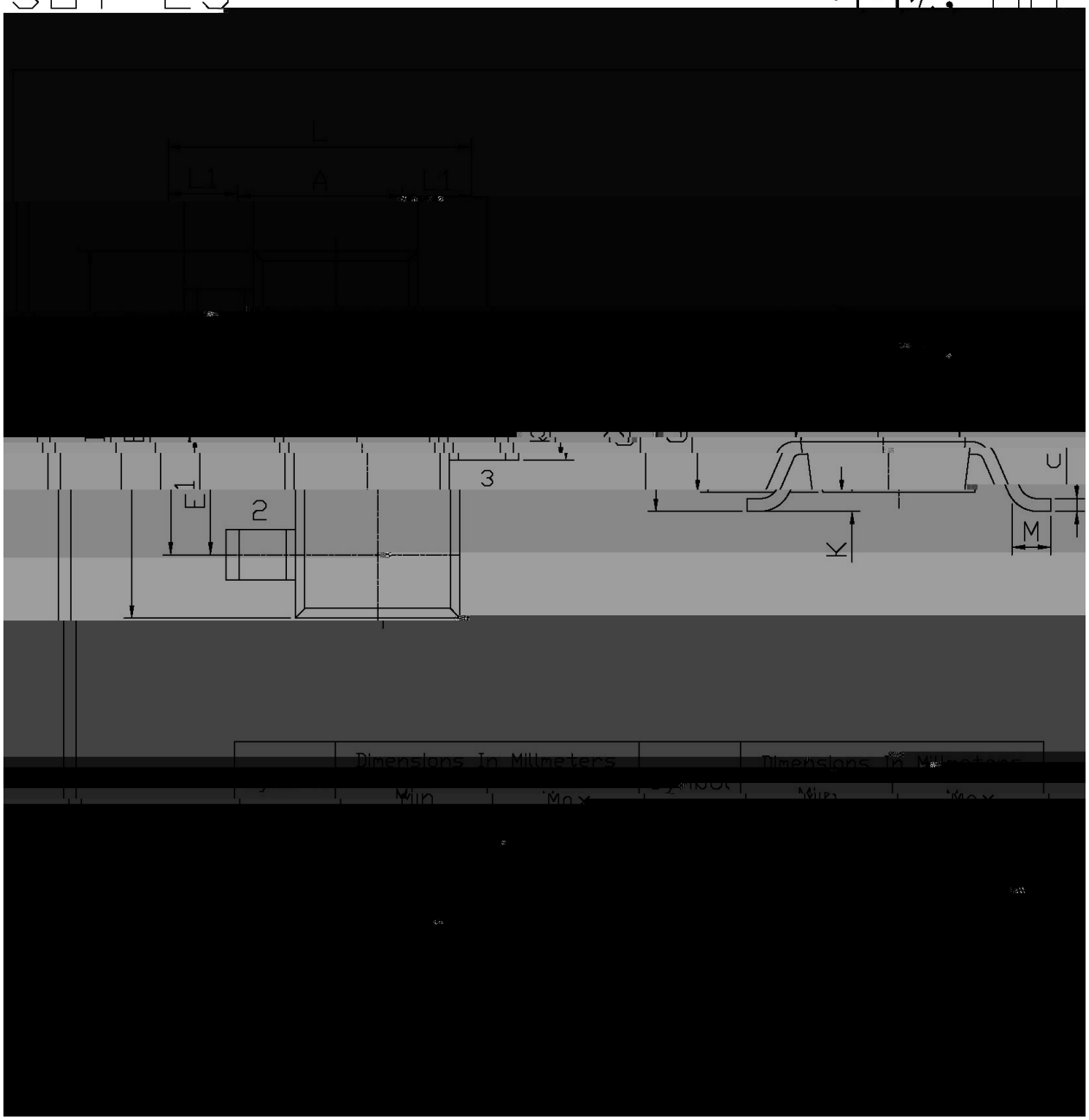
v ̈Ω̣ Parameter	ɬ N Symbol	⊥⊥ ;ˇ ̄ Ţ Test Conditions	ω̣ ṇ Ö Min	Ɛ ʒ Ö Typ	ω̣ ʑ Ö Max	D Ɉ Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=50V I_E=0			0.1	A
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5.0V I_C=0			0.1	A
DC Current Gain	h_{FE}	V_{CE}=6.0V I_C=2.0mA	70		700	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=100mA I_B=10mA		0.1	0.25	V
Transition Frequency	f_T	V_{CE}=10V I_C=1.0mA	80			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V I_E=0 f=1.0MHz		2.0	3.5	pF
Noise Figure	NF	V_{CE}=6.0V I_C=0.1mA f=1.0KHz R_g=10K		1.0	10	dB

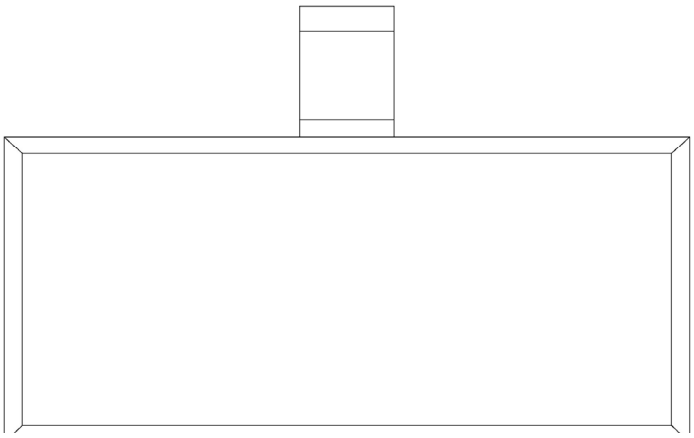
/ Electrical Characteristic Curve



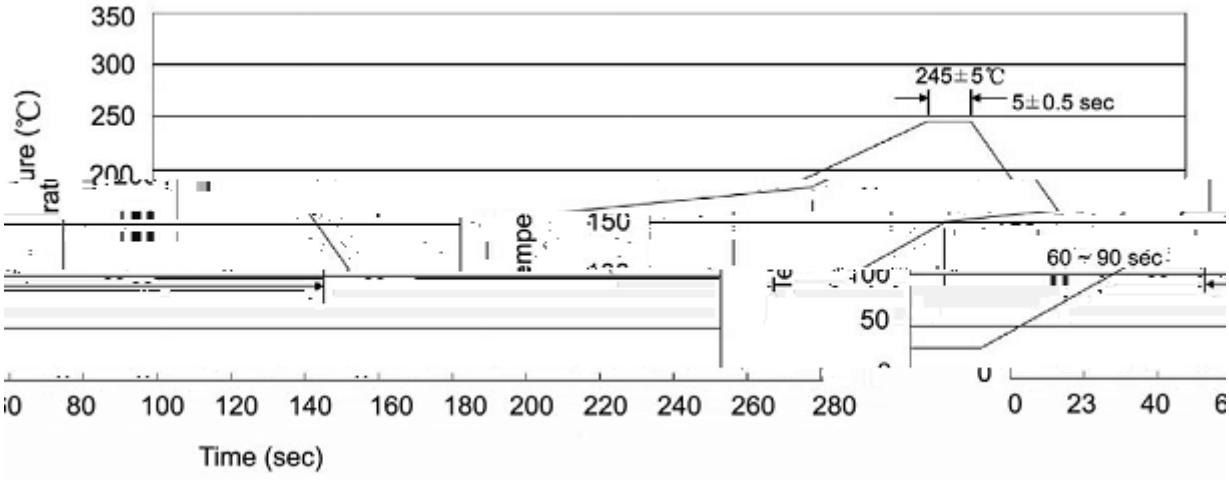
/ Package Dimensions

SOT-23 单位：mm





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



ب ˝ χ

1 ⺊ ♬ □ ỷ 25 Ḱ 150 ɬ ı `H ⺋ 60 Ḱ 90sec;

2 Š Ö □ ỷ 245 ° 5 ɬ ı `H ⺋ ˋY ⺈ ⺧ 5 ° 0.5sec;

3 ì ˙ ⺈ ˛ ɔ ⺌ ỷ ⺧ 2 Ḱ 10 ɬ /sec.

Note:

1.Preheating:25~150 ɬ , Time:60~90sec.

2.Peak Temp.:245 ° 5 ɬ , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ɬ /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ χ 260 ° 5 ɬ `H ⺋ χ 10 ° 1 sec. Temp.:260 ° 5 ɬ Time:10 ° 1 sec

/ Packaging SPEC.

ɔ` γ ⺊ / 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