

/ Revised record

/ Descriptions

SOT-23 塑封封装 PNP 半导体三极管。Silicon PNP transistor in a SOT-23 Plastic Package.

/ Features

低电流，低电压，符合 AEC-Q101 标准高可靠性要求，无卤产品。

Low current, Low voltage, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

/ Applications

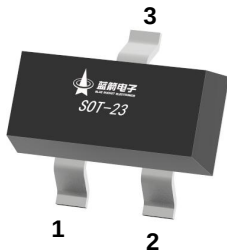
用于一般放大，满足汽车应用的严格要求。

General power amplifier application, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 : Base PIN 2 : Emitter PIN 3 : Collector

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	A	B	C
h_{FE} Range	125~250	220~475	420~800
Marking	Q3E	Q3F	Q3G

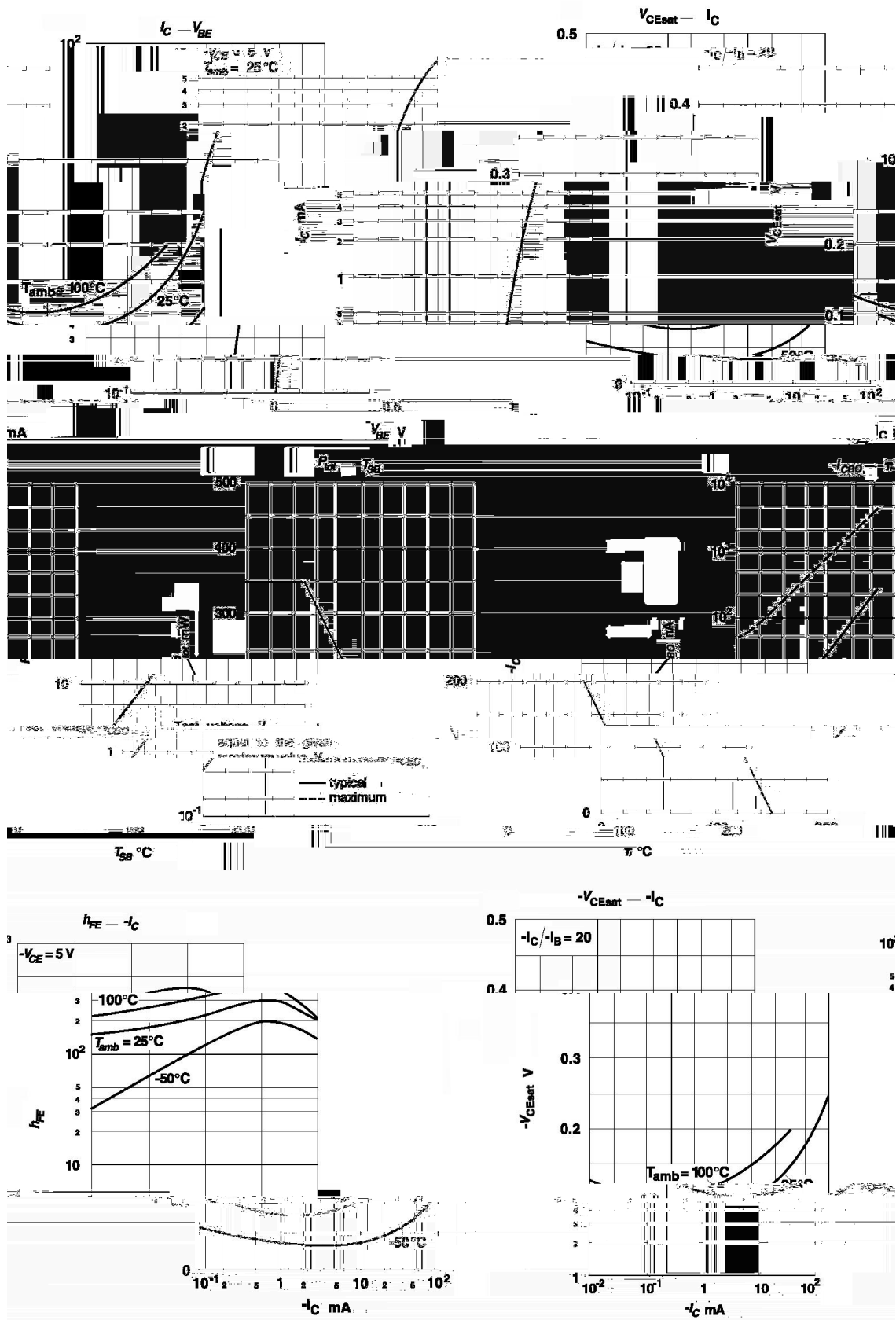
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-50	V
Collector to Emitter Voltage	V_{CEO}	-45	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_C	-100	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

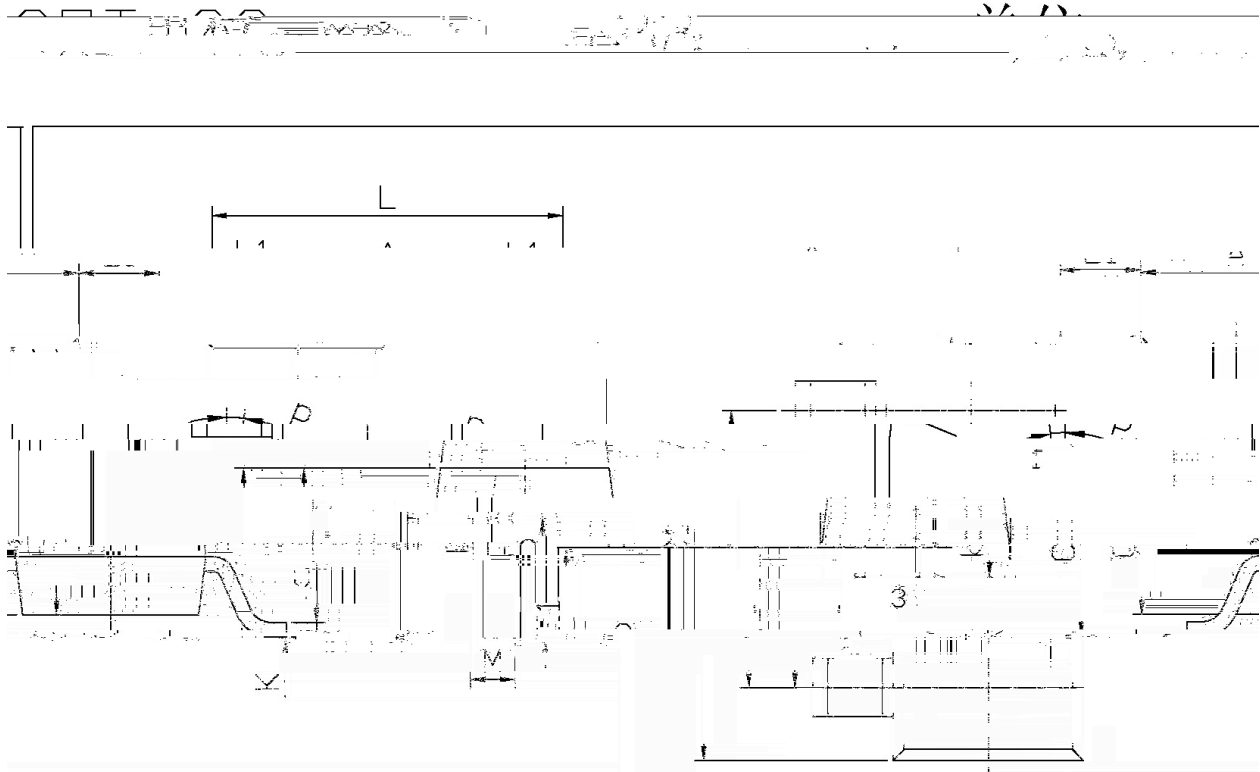
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-30V$ $I_E=0$			-0.015	μA
DC Current Gain	h_{FE}	$V_{CE}=-5.0V$ $I_C=-2.0mA$	125		800	
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=-10mA$ $I_B=-0.5mA$		-0.09	-0.3	V
	$V_{CE(sat)(2)}$	$I_C=-100mA$ $I_B=-5.0mA$		-0.25	-0.65	V
Base to Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=-10mA$ $I_B=-0.5mA$		-0.7		V
	$V_{BE(sat)(2)}$	$I_C=-100mA$ $I_B=-5.0mA$		-0.9		V
Collector to Emitter Voltage	$V_{CE(ON)(1)}$	$V_{CE}=5.0V$ $I_C=2.0mA$	-0.6	-0.65	-0.75	V
	$V_{CE(ON)(2)}$	$V_{CE}=5.0V$ $I_C=10mA$			-0.82	V
Transition Frequency	f_T	$V_{CE}=5.0V$ $f=100MHz$ $I_C=10mA$		150		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		4.5		pF
Noise Figure	NF	$V_{CE}=6.0V$ $I_C=0.1mA$ $R_g=10K\Omega$ $f=1.0KHz$		2.0	10	dB

/ Electrical Characteristic Curve

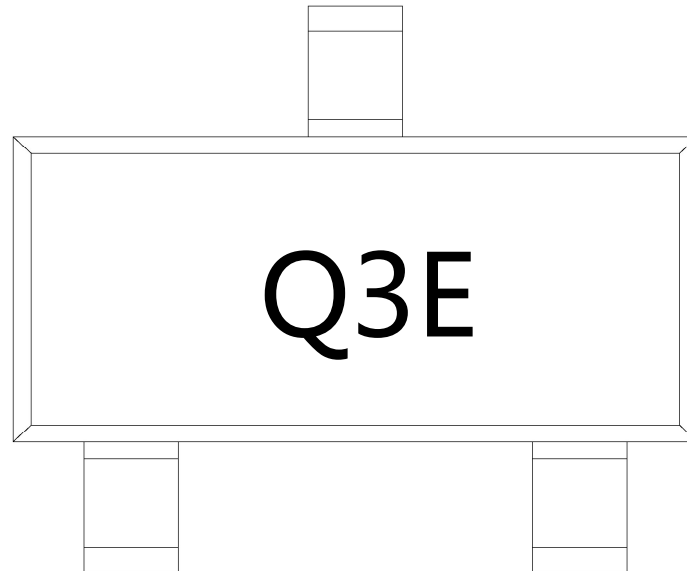


/ Package Dimensions



Symbol		Dimensions In Millimeters		Symbol		Dimensions In Millimeters	
2.7	C	0.65	1.30Max	2.2	L	1.1	0.45
1.50	c	0.90	1.20		A	1.15	
3.10	K	0.05	0.20		B	2.70	
2.10	M	0	0.10		E	1.70	
			0.20MIN				
		0.35	0.35				

/ Marking Instructions



Q

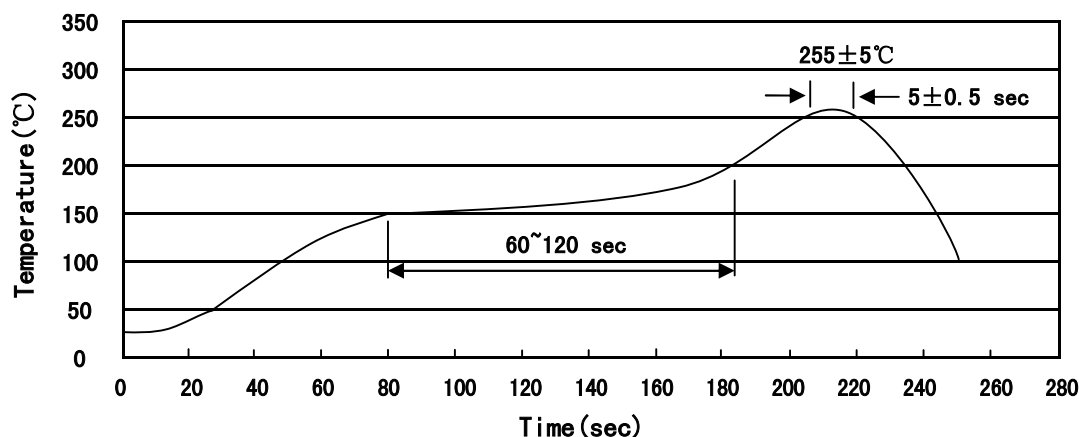
3E

Note:

Q: Automobile halogen-free product Code

3E: Product Type Code

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



Note:

1. Preheating: 150~200°C, Time: 60~120sec.
2. Peak Temp.: 255±5°C, Duration: 5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

/ Resistance to Soldering Heat Test Conditions

260±5°C 10±1 sec. Temp.: 260±5°C 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	180000	7" x8	180×120×180	390×385×205

/ Notices