

/ Revised record

G	2018-8				
H	2020-5-15	1			
A	2022-5-24	all	BR/Q AEC-Q101 , H Q 245±5 5±0.5sec 255±5 5± 0.5sec		

/ 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。

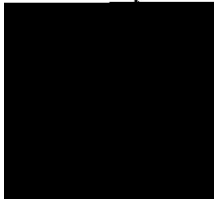
Low current, Low voltage, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

/ Applications

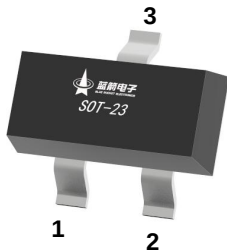
用于一般放大，满足汽车应用的严格要求。

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

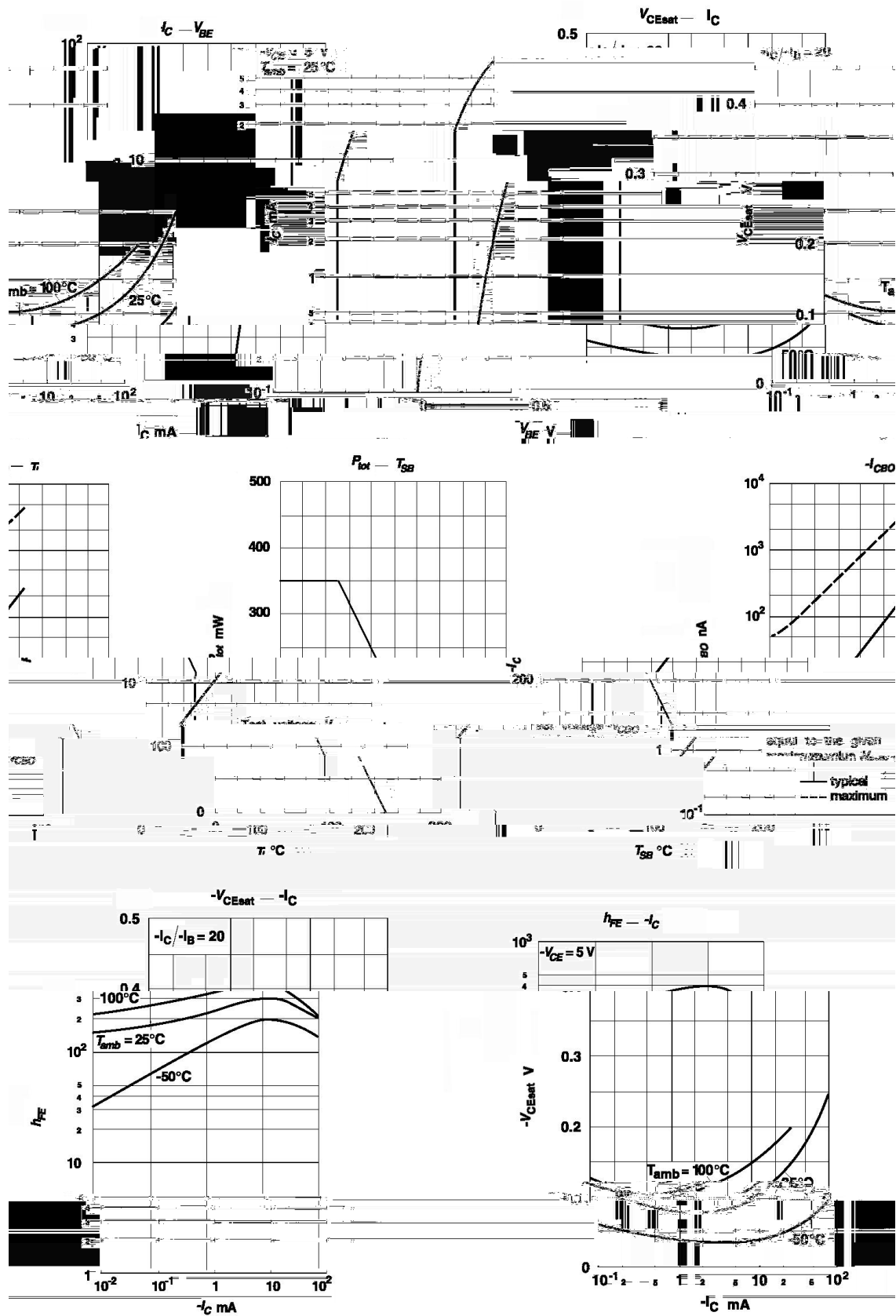
/ Absolute Maximum Ratings(Ta=25)

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)

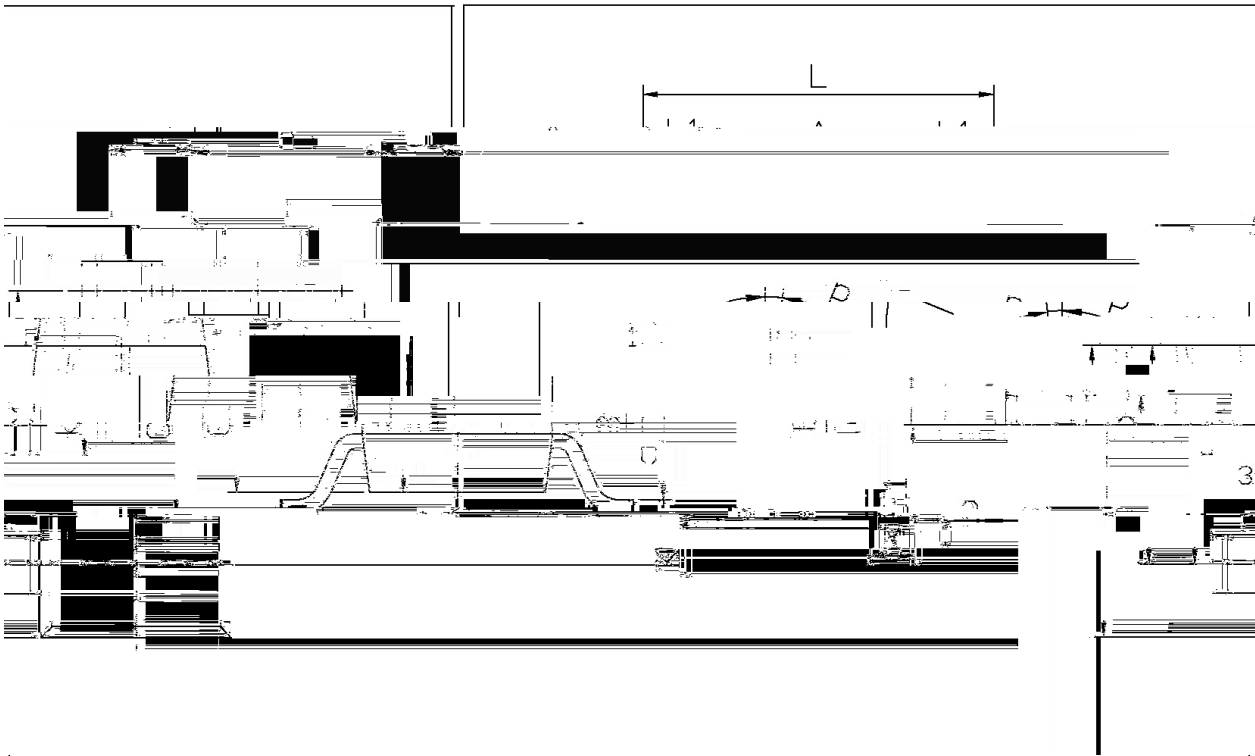
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-30V$ $I_E=0$			-0.015	μA
DC Current Gain	h_{FE}	$V_{CE}=-5.0V$ $I_C=-2.0mA$	125		800	
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=-10mA$ $I_B=-0.5mA$		-0.09	-0.3	V
	$V_{CE(sat)(2)}$	$I_C=-100mA$ $I_B=-5.0mA$		-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



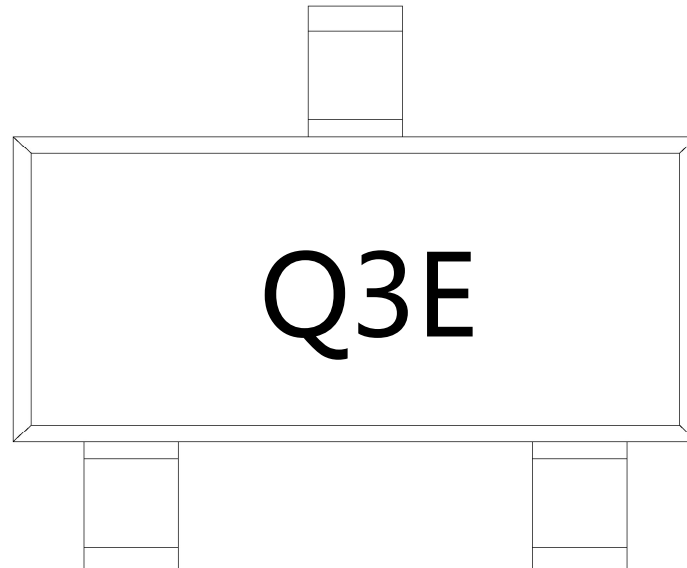
/ Package Dimensions

1. The dimensions of the package are given in millimeters (mm) and inches (in). The dimensions in millimeters are given in parentheses and the dimensions in inches are given in brackets.



Symbol		Dimensions In Millimeters		Symbol		Dimensions In Millimeters	
1	0.45	0.65	0.90	1	0.45	0.65	0.90
A	1.5	1.50	0.25	A	1.5	1.50	0.25
B	2.78	3.40	0.2	B	2.78	3.40	0.2
E	70	2.00	0.20	E	70	2.00	0.20
MIN	0.35	0.35	0.35	MIN	0.35	0.35	0.35

/ Marking Instructions



Q

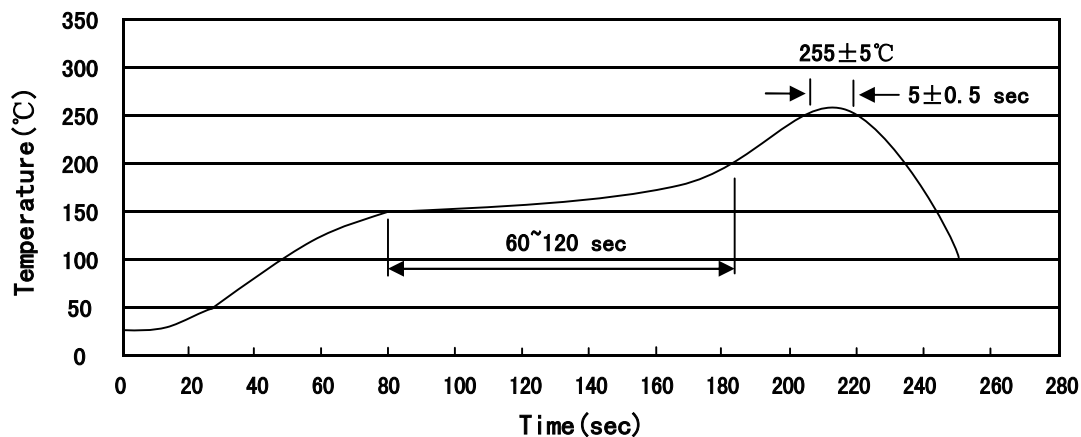
3E

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