

/ Descriptions

Silicon PNP transistor in a SOT-23 Plastic Package.

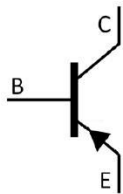
/ Features

Collector currents to 600mA. Halogen free product, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

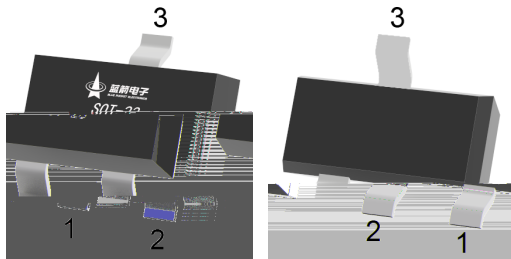
/ Applications

General purpose amplifier, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN 1 Base

PIN 2 Emitter

PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Range	100 300
Marking	Q2F

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-60	V
Collector to Emitter Voltage	V_{CEO}	-60	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-600	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 150	°C

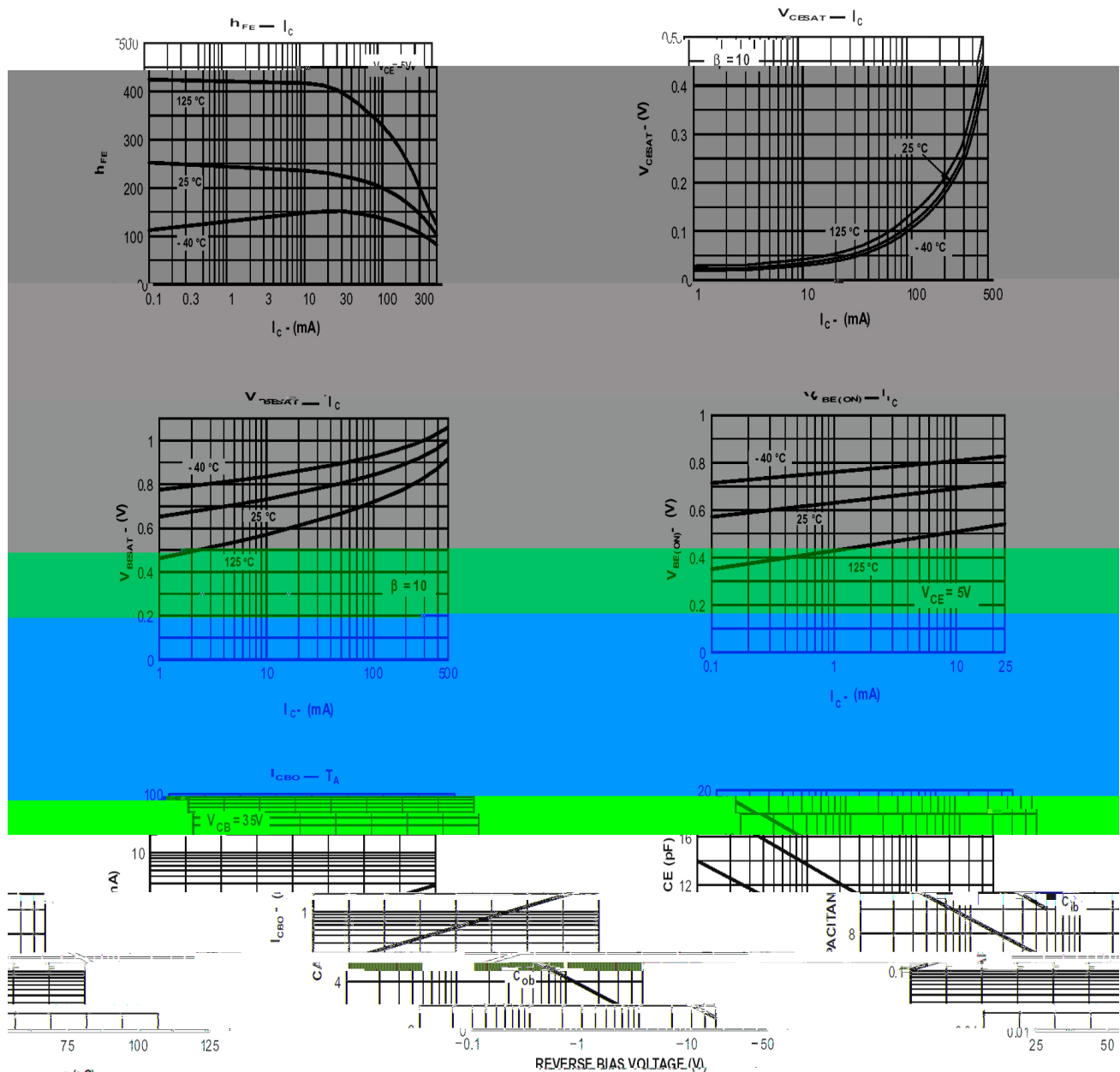
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C = -10\mu A$ $I_E = 0$	-60			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C = -10mA$ $I_B = 0$	-60			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -10\mu A$ $I_C = 0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -50V$ $I_E = 0$			-0.01	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -10V$ $I_C = -150mA^*$	100		300	
	$h_{FE(2)}$	$V_{CE} = -10V$ $I_C = -500mA^*$	50			
	$h_{FE(3)}$	$V_{CE} = -10V$ $I_C = -10mA$	100			
	$h_{FE(4)}$	$V_{CE} = -10V$ $I_C = -1.0mA$	100			
	$h_{FE(5)}$	$V_{CE} = -10V$ $I_C = -0.1mA$	75			
Collector-Emitter Saturation Voltage	$V_{CE(sat) (1)}$	$I_C = -150mA$ $I_B = -15mA$			-0.4	V
	$V_{CE(sat) (2)}$	$I_C = -500mA$ $I_B = -50mA$			-1.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat) (1)}$	$I_C = -150mA$ $I_B = -15mA$			-1.3	V
	$V_{BE(sat) (2)}$	$I_C = -500mA$ $I_B = -50mA$			-2.6	V
Transition Frequency	f_T	$V_{CE} = -20V$ $I_C = -50mA$ $f = 100MHz$	200			MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V$ $I_E = 0$ $f = 1.0MHz$			8.0	pF
Turn-On Time	t_{on}	$V_{CC} = -30V$ $I_C = -150mA$ $I_{B1} = -15mA$			50	ns
Turn-Off Time	t_{off}	$V_{CC} = -30V$ $I_C = -150mA$ $I_{B1} = I_{B2} = -15mA$			100	ns

*Pulse Test: Pulse Width 300 s, Duty Cycle 2.0%



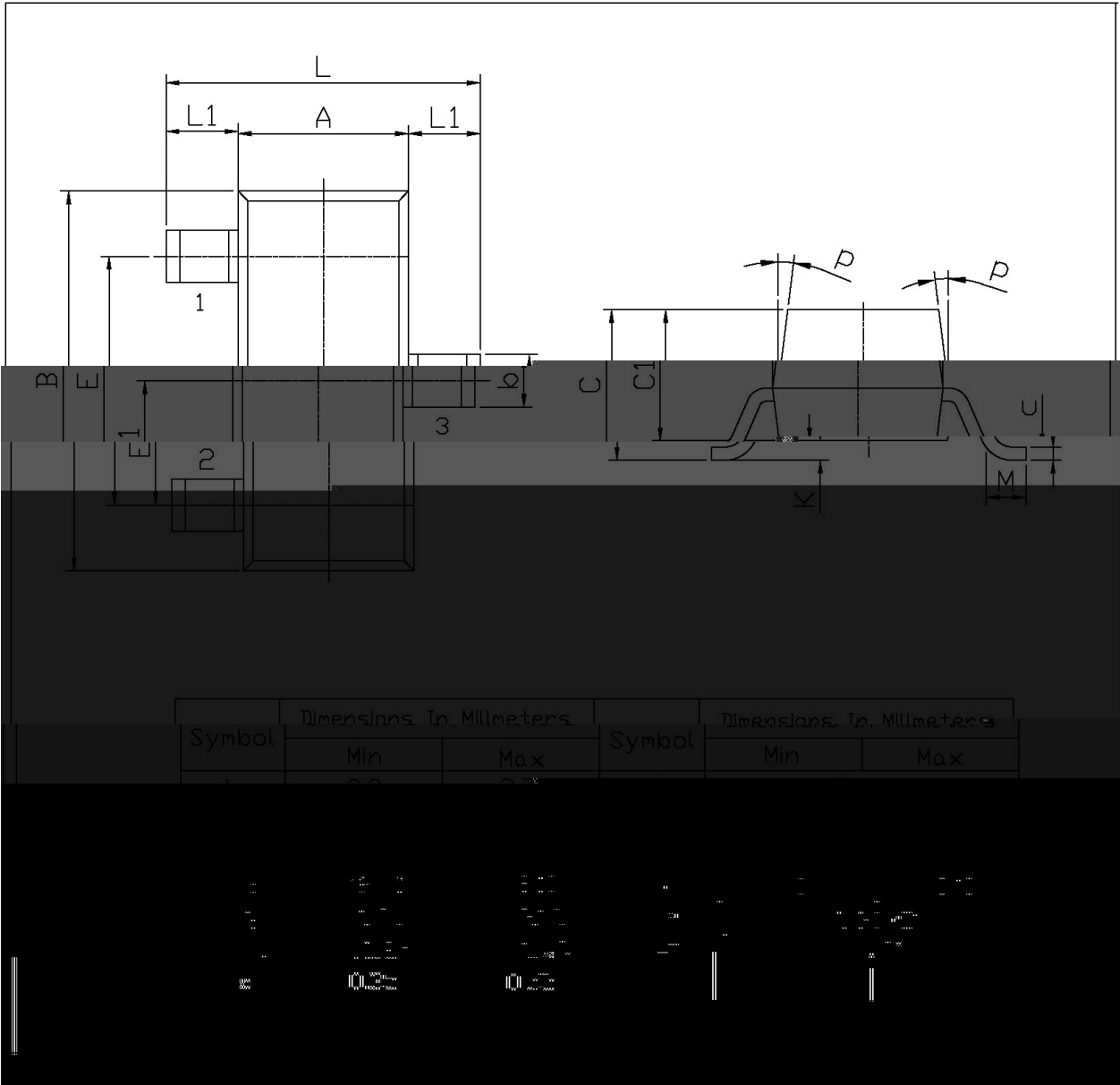
/ Electrical Characteristic Curve



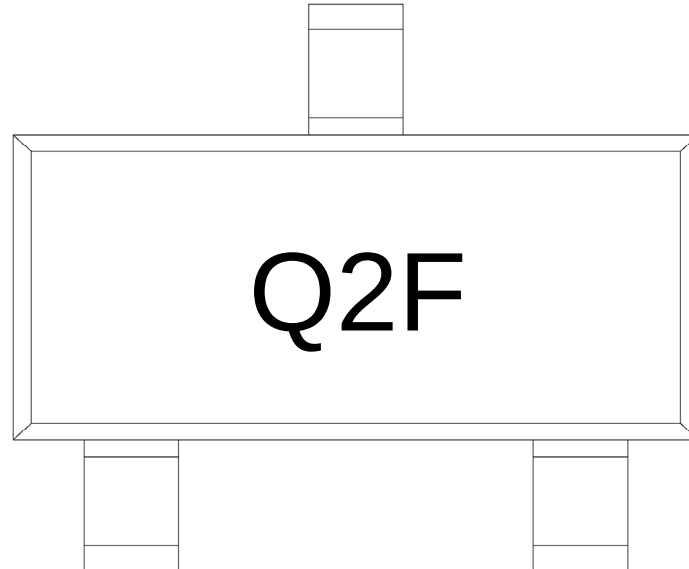
/ Package Dimensions

SOT-23

单位：mm



/ Marking Instructions



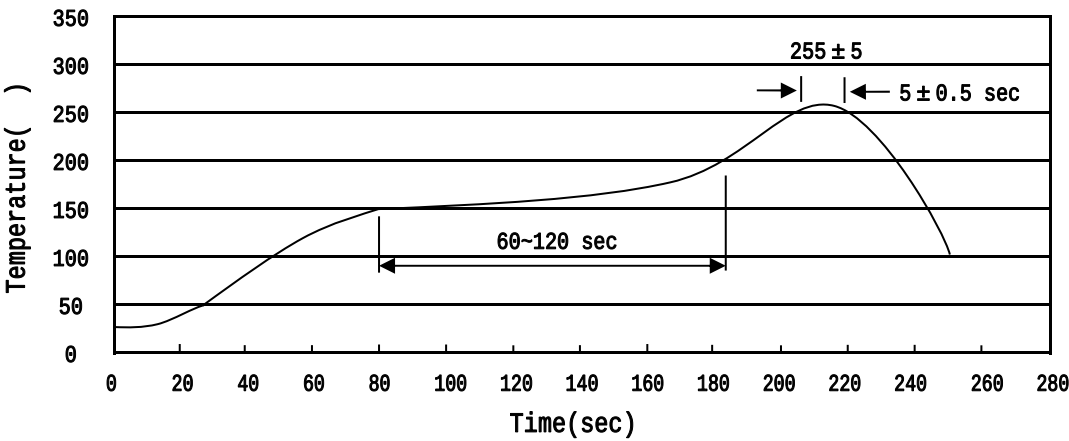
2F

Note:

Q: Automobile halogen-free product Code

2F Product Type Code

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Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255 5

5 0.5sec;

2.Peak Temp.:255 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
SOT-23	3,000	10	30,000	6	180000	7 ×8	180×120×180	390×385×205

/ Notices