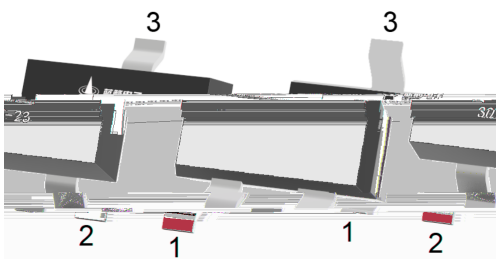
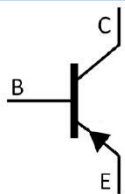


Rev.B May.-2025

SOT-23 PNP Silicon PNP transistor in a SOT-23 Plastic Package.

h_{FE} $V_{CE(sat)}$ AEC-Q101
 High DC Current Gain, Low Collector to Emitter Saturation Voltage, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

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



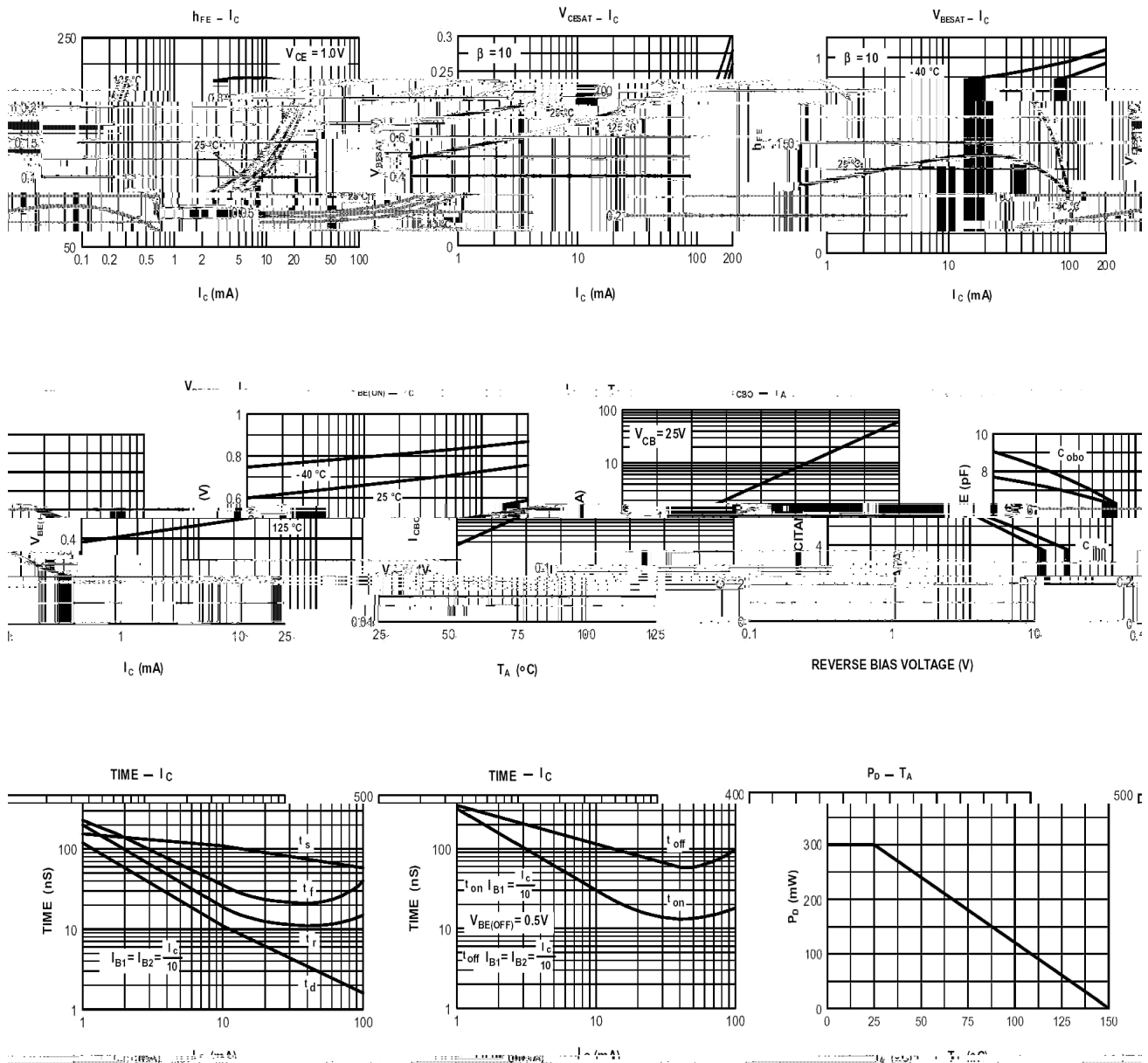
PIN 1 Base PIN 2 Emitter PIN 3 Collector

h_{FE} Range	100~300
Marking	• Q2A

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-40	V
Collector to Emitter Voltage	V_{CEO}	-40	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-200	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

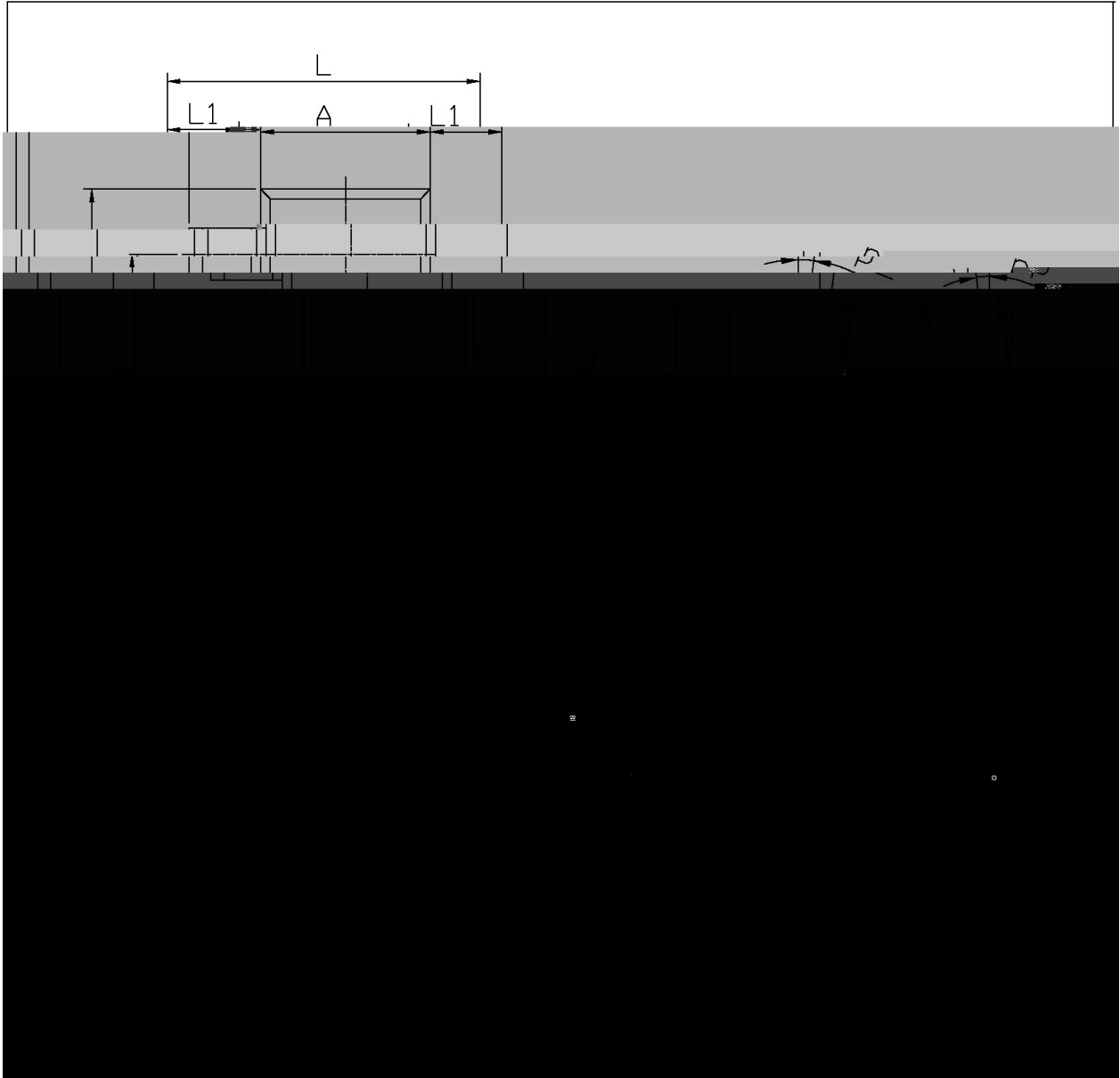
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C = -10\text{ A}$ $I_E = 0$	-40			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C = -1.0\text{mA}$ $I_B = 0$	-40			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -10\text{ A}$ $I_C = 0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -30\text{V}$ $I_E = 0$			-0.05	A
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = -3.0\text{V}$ $I_C = 0$			-0.05	A
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -1.0\text{V}$ $I_C = -10\text{mA}$	100		300	
	$h_{FE(2)}$	$V_{CE} = -1.0\text{V}$ $I_C = -100\text{mA}$	30			
	$h_{FE(3)}$	$V_{CE} = -1.0\text{V}$ $I_C = -50\text{mA}$	60			
	$h_{FE(4)}$	$V_{CE} = -1.0\text{V}$ $I_C = -1.0\text{mA}$	80			
	$h_{FE(5)}$	$V_{CE} = -1.0\text{V}$ $I_C = -0.1\text{mA}$	60			
Collector-Emitter Saturation Voltage	$V_{CE(sat) (1)}$	$I_C = -10\text{mA}$ $I_B = -1.0\text{mA}$			-0.25	V
	$V_{CE(sat) (2)}$	$I_C = -50\text{mA}$ $I_B = -5.0\text{mA}$			-0.4	V
Base-Emitter Saturation Voltage	$V_{BE(sat) (1)}$	$I_C = -10\text{mA}$ $I_B = -1.0\text{mA}$	-0.65		-0.85	V
	$V_{BE(sat) (2)}$	$I_C = -50\text{mA}$ $I_B = -5.0\text{mA}$			-0.95	V

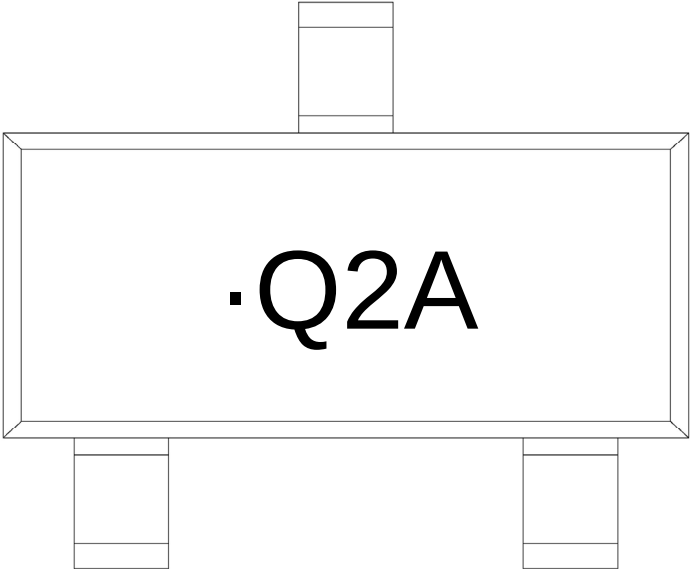
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Transition Frequency	f_T	$V_{CE}=-20V$ $I_C=-10mA$ $f=100MHz$	250			MHz
Output Capacitance	C_{ob}	$V_{CB}=-5.0V$ $f=1.0MHz$			4.5	pF
Storage Time	t_{stg}	$V_{CC}=-3.0V$ $I_C=-10mA$ $I_{B1}=-I_{B2}=-1.0mA$			225	ns
Fall Time	t_f	$V_{CC}=-3.0V$ $I_C=-10mA$ $I_{B1}=-I_{B2}=-1.0mA$			75	ns
Delay Time	t_d	$V_{CC}=-3.0V$ $V_{BE}=-0.5V$ $I_C=-10mA$ $I_{B1}=-1.0mA$			35	ns
Rise Time	t_r	$V_{CC}=-3.0V$ $V_{BE}=-0.5V$ $I_C=-10mA$ $I_{B1}=-1.0mA$			35	ns
Input Capacitance	C_{ib}	$V_{EB}=-0.5V$ $f=1.0MHz$			10	pF



SOT-23

单位: mm





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Q

2A

Note:

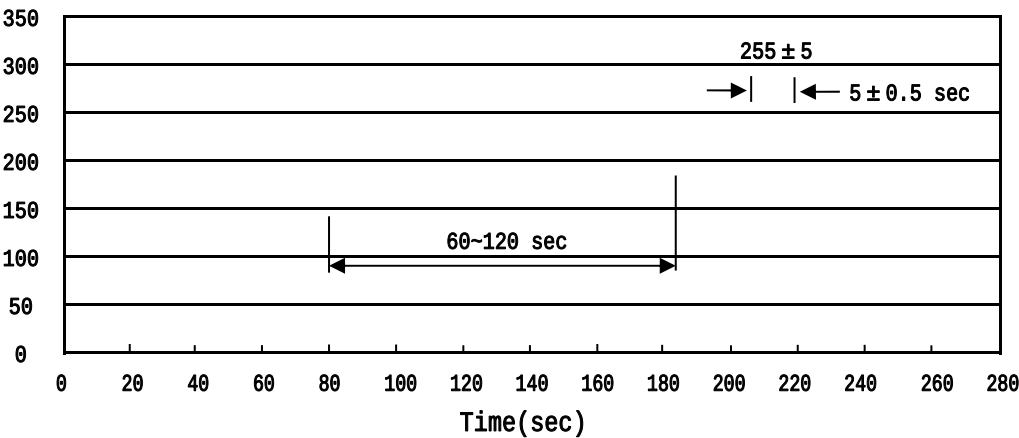
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Identify

Q: Automobile halogen-free product Code

2A Product Type Code

Temperature Profile for IR Reflow Soldering(Pb-Free)



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.

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205