



Rev.A Dec.-2021

修订记录

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F	2017-4				
G	2020-5-15	1	0 1 2 3 4 5 6 7 8 9 : 5 6 ; <	= >	? @ A
A	2021-12-17	all	BC 4 BR 4 Q 9 0 1) DE 3 4 FG ; < H I J K L AEC-Q101 7 M N O P Q R S T U V F G D E % W X R S Y , Z [H \] Q 9 ^ _ ` a 245±5°C 9 b c d e ] 5±0.5sec f g ] h ^ _ ` a 255±5°C 9 b c d e] 5±0.5sec i	= >	? @ A



描述

SOT-23 j k k l NPN m n o p q r i Silicon NPN transistor in a SOT-23 Plastic Package.

特征

s t N,u v t w x,y z q { | z + x, } BRMMBTA92Q ~ 9 K L AEC-Q101 7 M N O P Q R S 9 5 6 ; < i

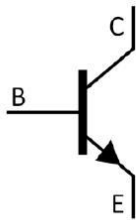
High voltage, Low saturation voltage, low collector capacitance output, complementary pair with BRMMBTA92Q, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途

N z t j - z ¢ 9 U V F G D E %W X R S i

High voltage control circuit, Meet the stringent requirements of automotive applications.

内部等效电路



引脚排列



PIN1 h Base PIN 2 h Emitter PIN 3 h Collector

印章代码

h _{FE} Range	>40
Marking	Q1D



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极限参数

°C

Parameter	K C Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	300	V
Collector to Emitter Voltage	V_{CEO}	300	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	500	mA
Collector Power Dissipation*	$*P_C$	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C

*: "© a « ¬ 4.0*4.0*0.15mm³ % FR-4 PCB - ® i

*:Device mounted on FR-4 PCB 4.0*4.0*0.15mm³

电性能参数

°C

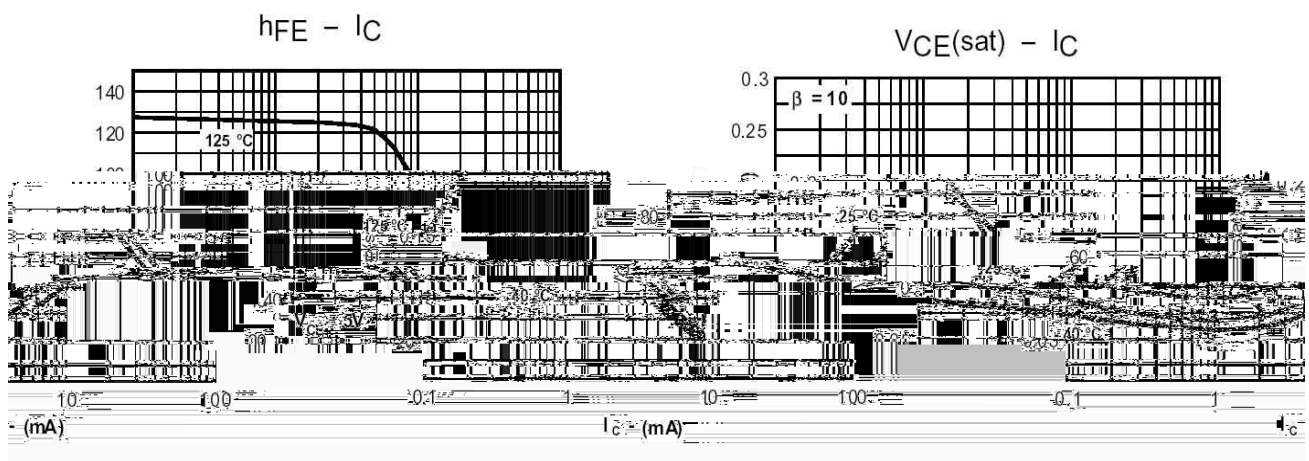
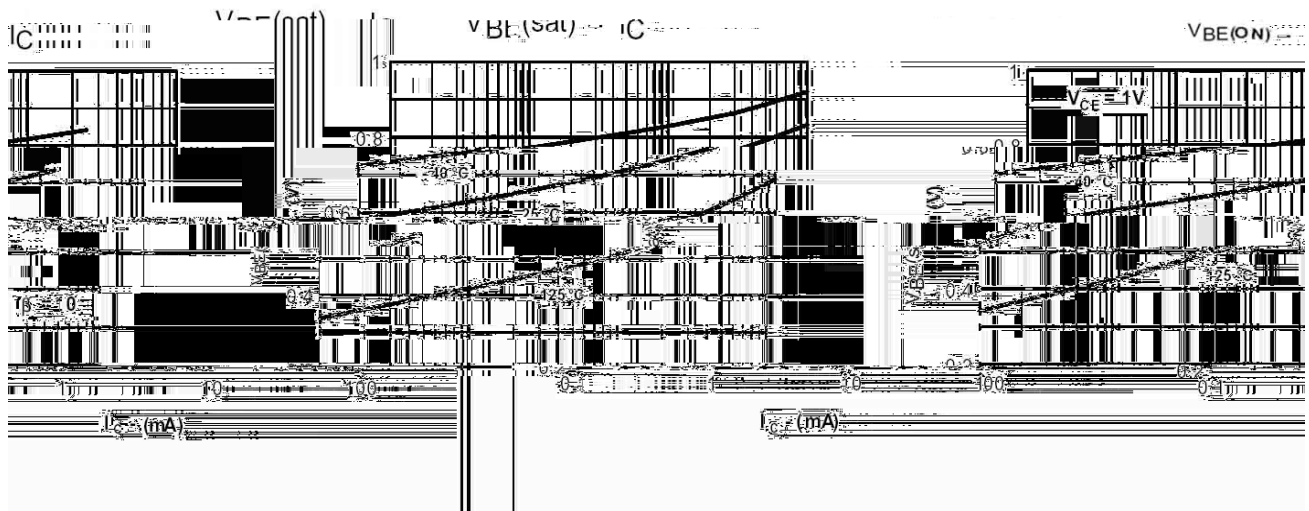
Parameter	K C Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=100\mu A$ $I_E=0$	300			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	300			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=100\mu A$ $I_C=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=200V$ $I_E=0$			0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{BE}=6.0V$ $I_C=0$			0.1	μA
DC Current Gain	$*h_{FE(1)}$	$V_{CE}=10V$ $I_C=10mA$	40			
	$*h_{FE(2)}$	$V_{CE}=10V$ $I_C=30mA$	40			
	$*h_{FE(3)}$	$V_{CE}=10V$ $I_C=1.0mA$	25			
Collector to Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=20mA$ $I_B=2.0mA$			0.5	V
Base to Emitter Saturation Voltage	$*V_{BE(sat)}$	$I_C=20mA$ $I_B=2.0mA$			0.9	V
Transition Frequency	f_T	$I_C=10mA$ $V_{CE}=20V$ $f=100MHz$	50			MHz
Collector output capacitance	C_{ob}	$V_{CB}=20V$ $I_E=0$ $f=1.0MHz$			3.0	pF

* ¶ · ° h ¶ , 1300 μS 9 ° » ¼ 12.0% i

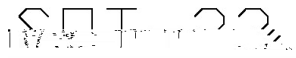
*pulse test: pulse width $\leq 300\mu S$, duty cycle $\leq 2.0\%$.



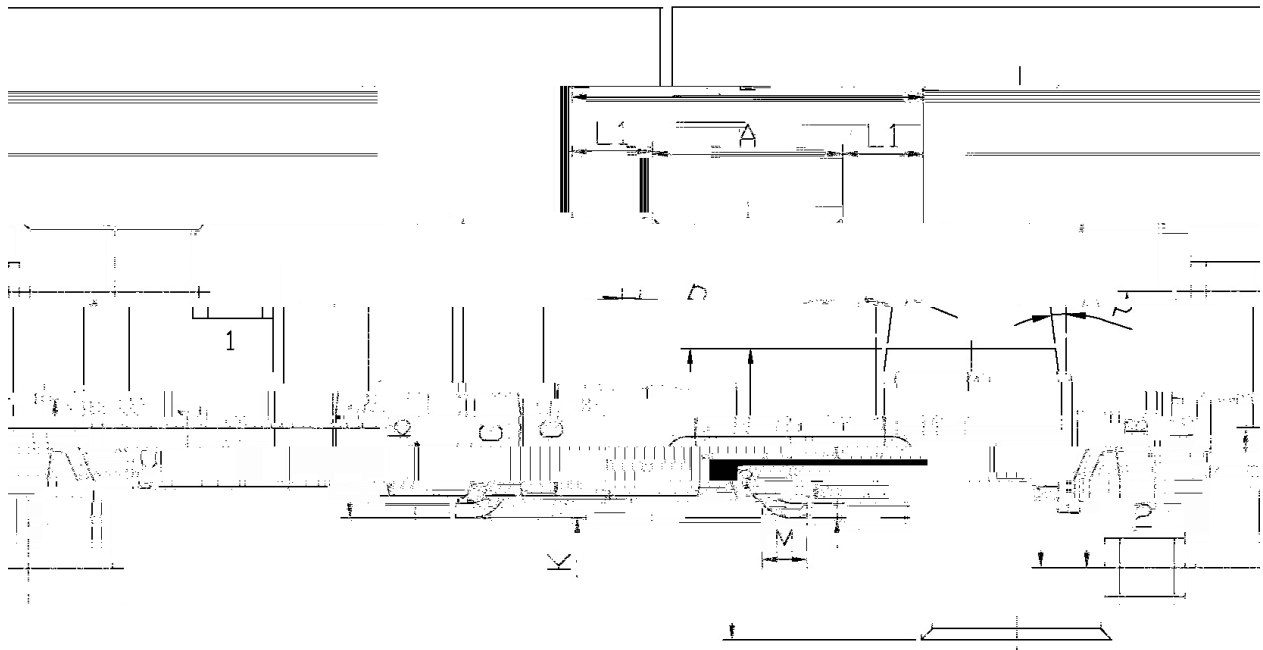
电参数曲线图



外形尺寸图

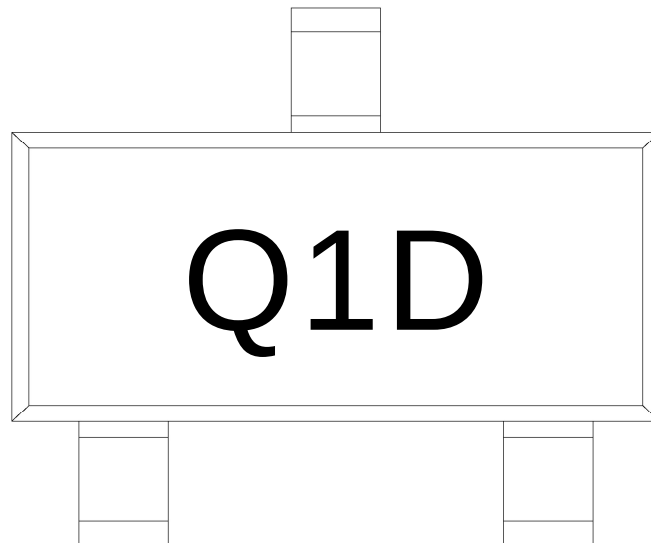


前 后



Dimensions in Millimeters				Dimensions in Inches			
Symbol		Min	Max	Symbol		Min	Max
	A	120	120		A	4.75	4.75
	B	120	120		B	4.75	4.75
	C	120	120		C	4.75	4.75
	D	120	120		D	4.75	4.75
	E	120	120		E	4.75	4.75
	F	120	120		F	4.75	4.75
	G	120	120		G	4.75	4.75
	H	120	120		H	4.75	4.75
	I	120	120		I	4.75	4.75
	J	120	120		J	4.75	4.75
	K	120	120		K	4.75	4.75
	L	120	120		L	4.75	4.75
	M	120	120		M	4.75	4.75
	N	120	120		N	4.75	4.75
	O	120	120		O	4.75	4.75
	P	120	120		P	4.75	4.75
	Q	120	120		Q	4.75	4.75
	R	120	120		R	4.75	4.75
	S	120	120		S	4.75	4.75
	T	120	120		T	4.75	4.75
	U	120	120		U	4.75	4.75
	V	120	120		V	4.75	4.75
	W	120	120		W	4.75	4.75
	X	120	120		X	4.75	4.75
	Y	120	120		Y	4.75	4.75
	Z	120	120		Z	4.75	4.75
	AA	120	120		AA	4.75	4.75
	AB	120	120		AB	4.75	4.75
	AC	120	120		AC	4.75	4.75
	AD	120	120		AD	4.75	4.75
	AE	120	120		AE	4.75	4.75
	AF	120	120		AF	4.75	4.75
	AG	120	120		AG	4.75	4.75
	AH	120	120		AH	4.75	4.75
	AI	120	120		AI	4.75	4.75
	AJ	120	120		AJ	4.75	4.75
	AK	120	120		AK	4.75	4.75
	AL	120	120		AL	4.75	4.75
	AM	120	120		AM	4.75	4.75
	AN	120	120		AN	4.75	4.75

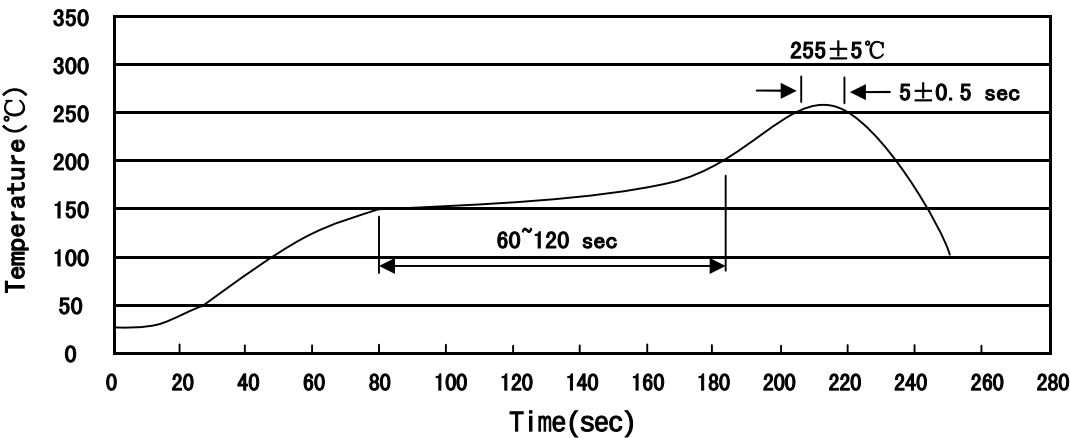
印章说明



1D: Product Type Code.



回流焊温度曲线图 无铅 Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

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

耐焊接热试验条件

260±5°C 10±1 sec. Temp.:260±5°C Time:10±1 sec

包装规格

/ 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

使用说明