

/ Descriptions

Silicon NPN Digital transistor in a SOT-23 Plastic Package.

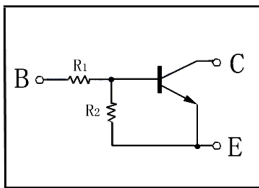
/ Features

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

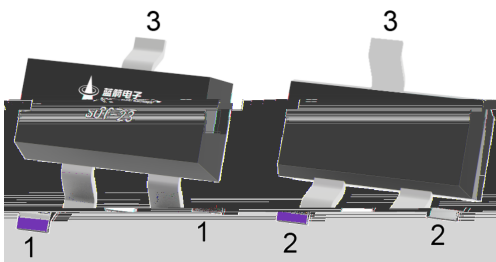
/ Applications

Switching applications, interface circuit and driver circuit applications, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN 1 Base PIN 2 Emitter PIN 3 Collector

/ hFE Classifications & Marking

Marking	QE42
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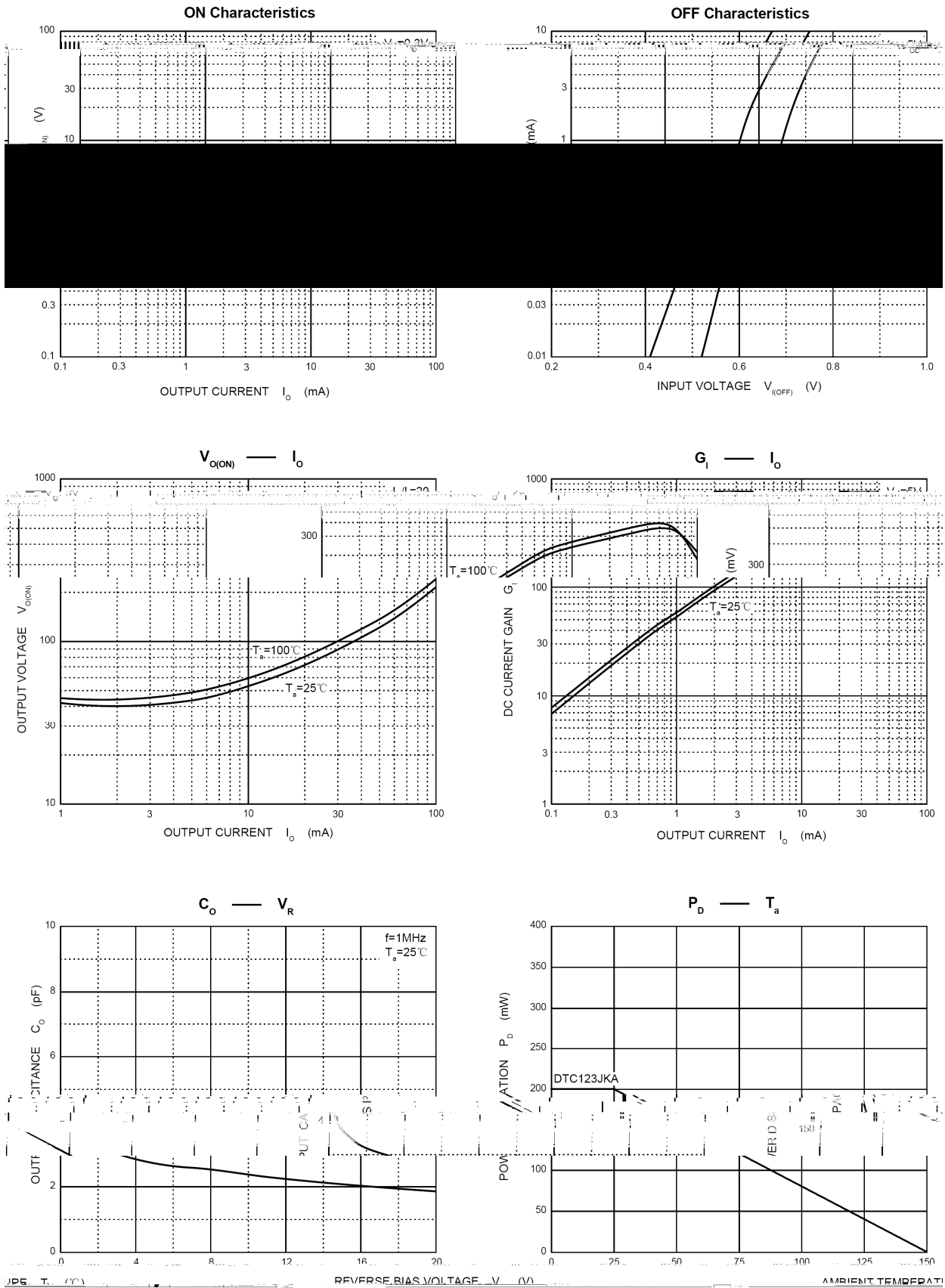
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Output Voltage	V _{CC}	50	V
Input Voltage	V _{IN}	12	V
		-5	V
Output Current	I _O	100	mA
	I _C	100	mA
Collector Dissipation	P _C	200	mW
Junction Temperature	T _J	150	
Storage Temperature Range	T _{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage	V _{I(off)}	V _{CC} =5.0V I _O =100μA			0.5	V
Input Voltage	V _{I(on)}	V _O =0.3V I _O =5.0mA	1.1			V
Output Voltage	V _{O(on)}	I _O =5.0mA I _I =0.25mA		0.1	0.3	V
Input C	I _I	V _I =5.0V			3.6	mA
Output Cut-off Current	I _{O(off)}	V _{CC} =50V V _I =0V			0.5	μA
DC Current Gain	G _I	V _O =5.0V I _O =10mA	80			
Transition Frequency	f _T	V _{CE} =10V I _E =-5.0mA f=100MHz		250		MHz
Resistance1	R ₁		1.54	2.2	2.86	K
Resistance Ratio	R ₂ /R ₁		17	21	26	

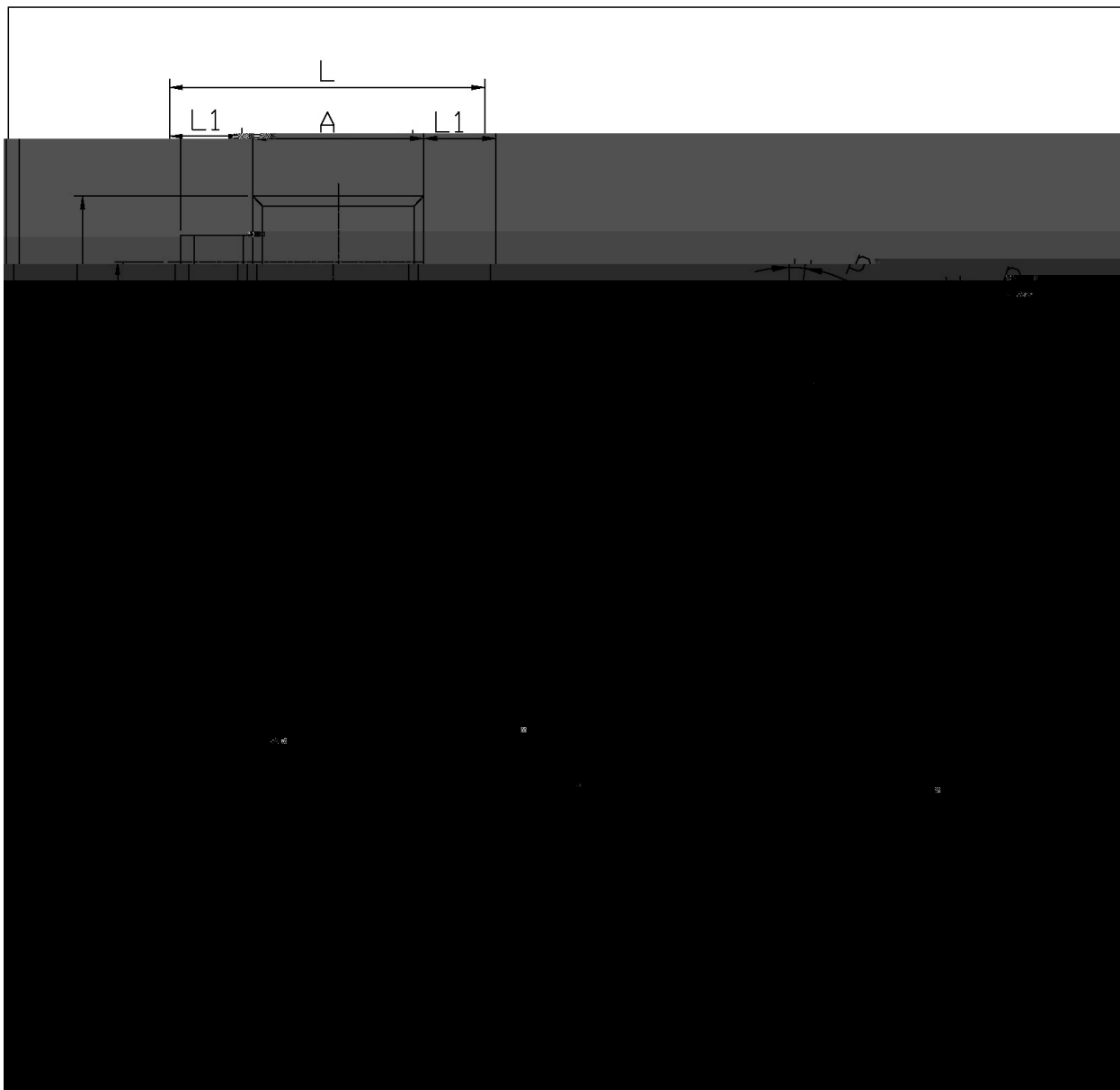
/ Electrical Characteristic Curve



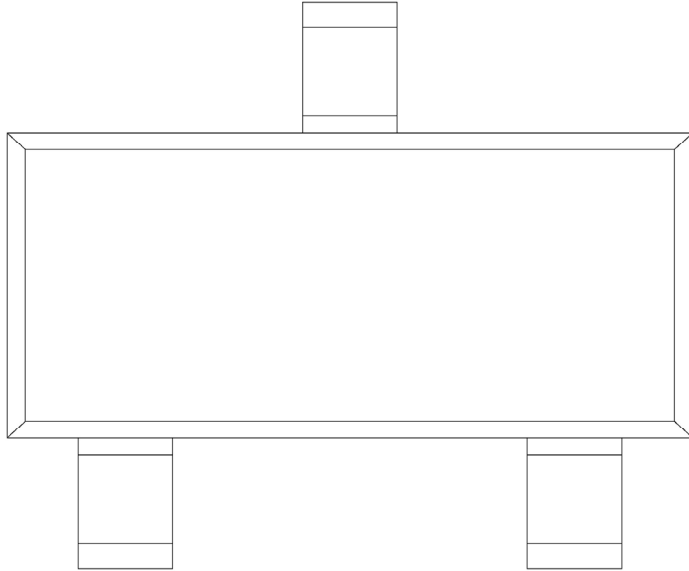
/ Package Dimensions

SOT-23

单位: mm



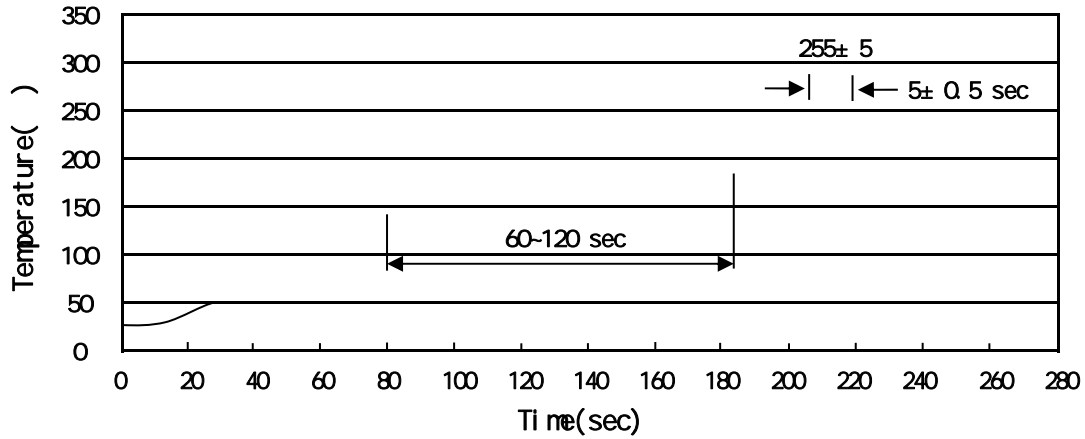
/ Marking Instructions



Note:

E42

() / 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.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ 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 x8	180x120x180	390x385x205

/ Notices