/ Descriptions

SOT-323 PNP

Silicon PNP Digital Transistor in a SOT-323 Plastic Package.

/ Features

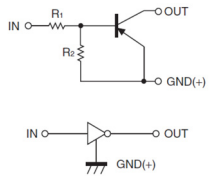
AEC-Q101

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.

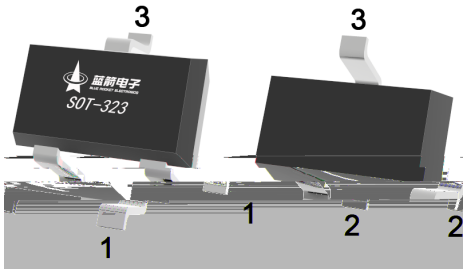
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN1 IN PIN 2 GND PIN 3 OUT

/ h_{FE} Classifications & Marking

Marking	Q14

/ Absolute Maximum Ratings(Ta=25)

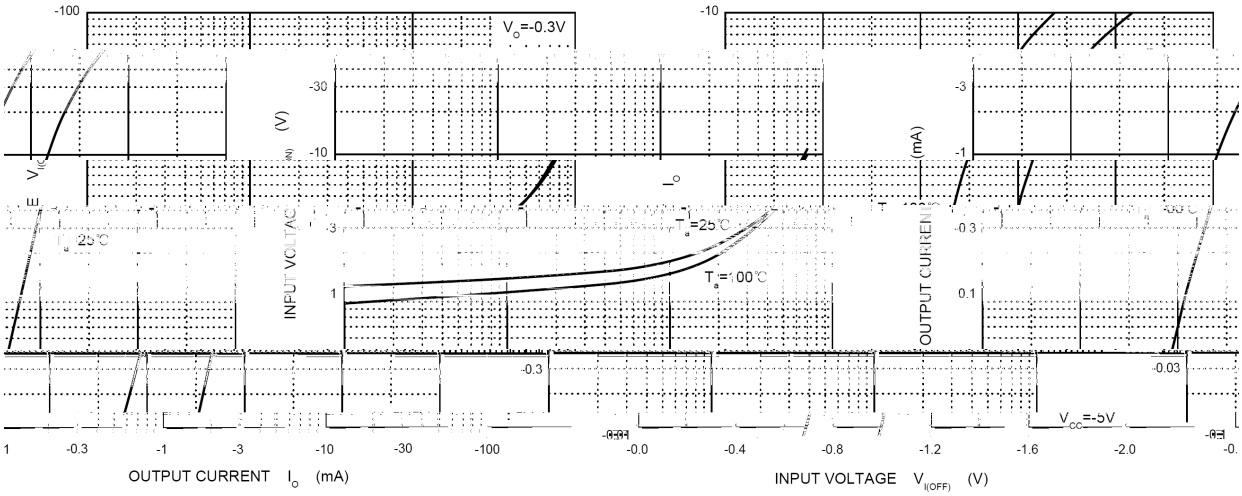
Parameter	Symbol	Rating	Unit
Output Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	10	V
		-40	V
Output Current	I_O	-50	mA
Peak Collector Current	I_{CM}	-100	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_j	-55 150	
Storage Temperature Range	T_{stg}	-55 150	

/ 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
	$V_{I(on)}$	V_O=-0.3V I_O=-10mA			-3.0	V
Output Voltage	$V_{O(on)}$	I_O=-10 mA I_I=-0.5mA			-0.3	V
Input Current	I_I	V_I=-5.0V			-0.88	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=-5.0mA	30			
Resistance1	R_1		7	10	13	KΩ
Resistance Ratio	R_2/R_1		0.8	1.0	1.2	
Transition Frequency	f_T	V_O=-10V I_O=-5.0mA f=100MHz		250		MHz

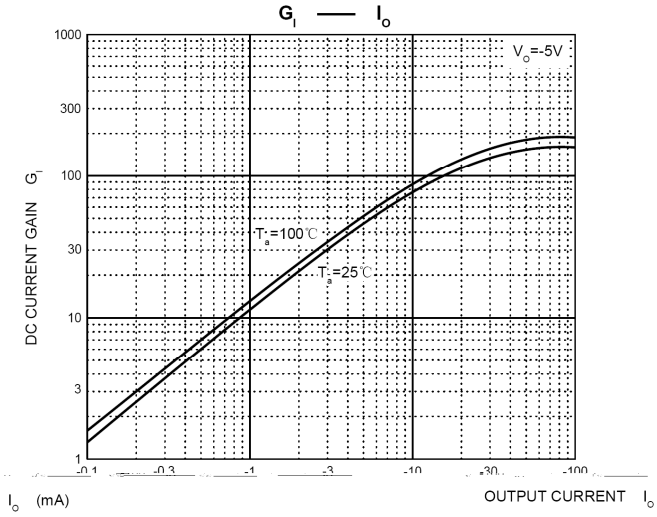
/ Electrical Characteristic Curve

ON Characteristics

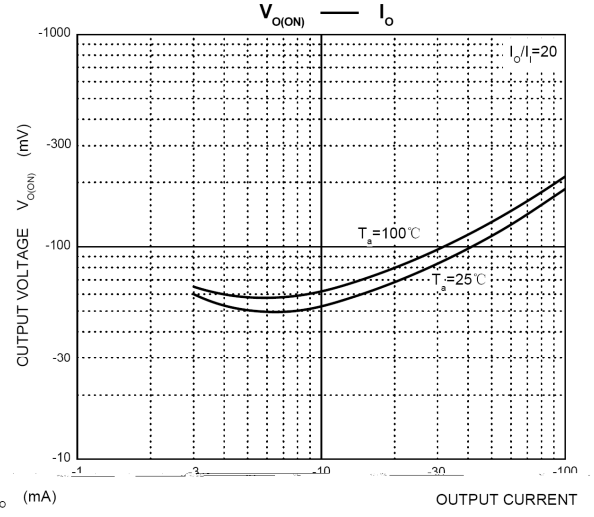


OFF Characteristics

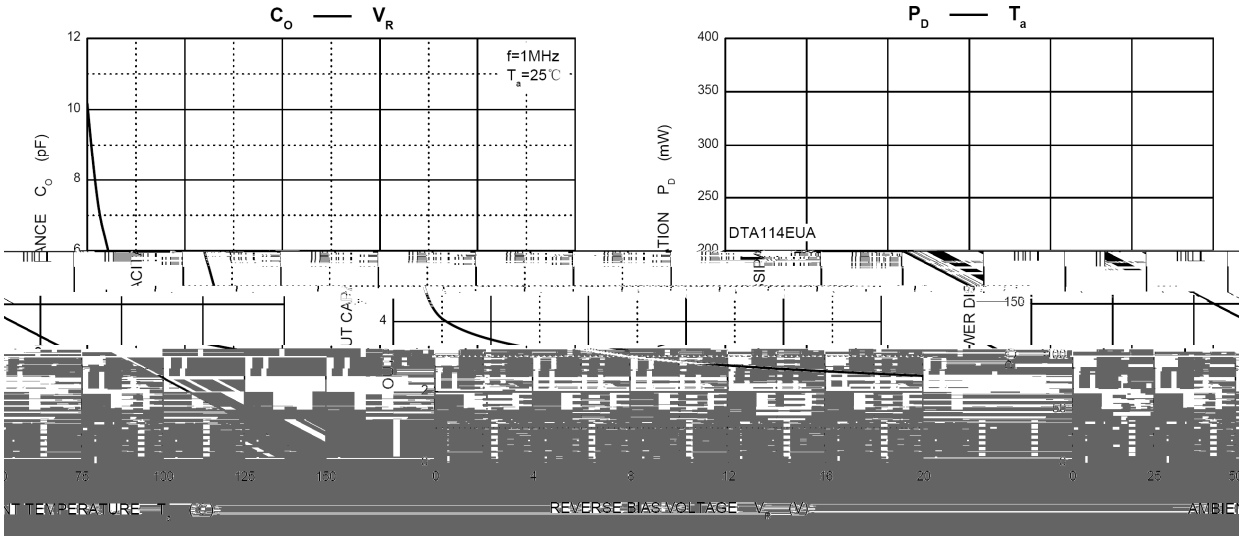
G_I — I_O



$V_{O(ON)}$ — I_O

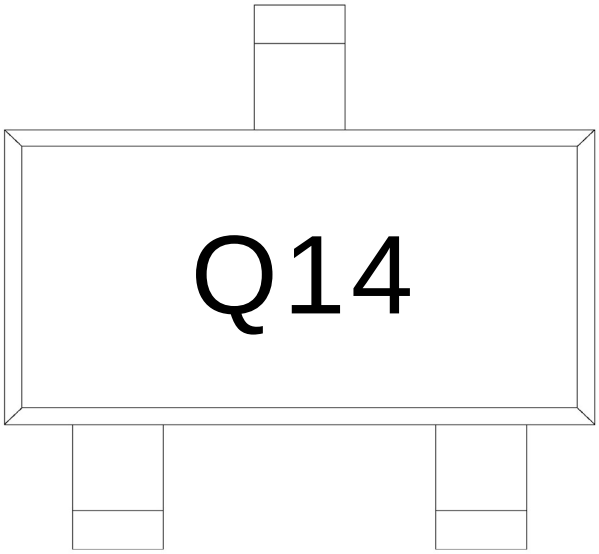


C_O — V_R



P_D — T_a

/ Marking Instructions



Q

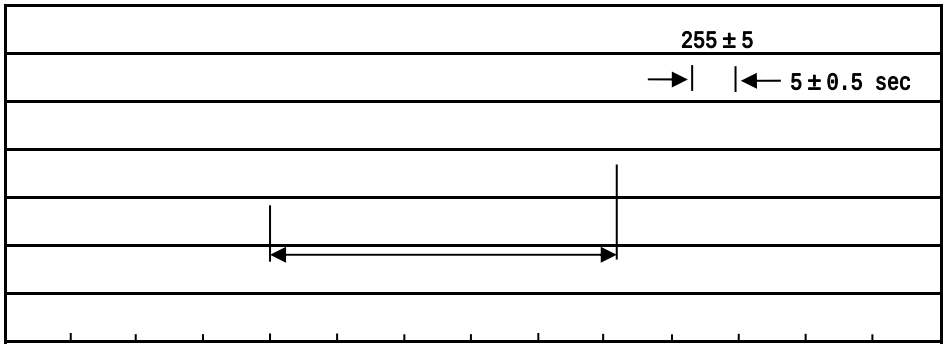
14

Note:

Q: Automobile halogen-free product Code

14 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.

/ 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：mm³)		
	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-323	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices