5 é / Descriptions

9 5 : .> / / x J´ 4 6 4 ƒ â ’ož Silicon NPN Digital transistor in a SOT-23 Plastic Package.

¤ ª / Features

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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.

Ð ÷ / Applications

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

Ã W] Ô · / Equivalent Circuit

• Û - æ / Pinning

PIN 1 y Base PIN 2 y Emitter PIN 3 y Collector

Z Ü B , M V / h_{FE} Classifications & Marking

Marking	QE23

@ ƒ Parameter	… Z Symbol	ƒ › Rating	% y Unit
Output Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	30	V
		-5.0	V
Output Current	I_O	100	mA
	I_C	100	mA
Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Input Voltage(OFF)	$V_{I(off)}$	V_{CC}=5.0V I_O=100 A			0.5	V
Input Voltage(ON)	$V_{I(on)}$	V_O=0.3V I_O=5.0mA	1.3			V
Output Voltage	$V_{O(on)}$	I_O=5.0mA I_I=0.25mA		0.1	0.3	V
Input Current	I_I	V_I=5.0V			1.8	mA
Output Cut-off Current	$I_{O(off)}$	V_{CC}=50V V_I=0V			0.5	A
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		3.29	4.7	6.11	K
Resistance Ratio	R_2/R_1		8.0	10	12	

Ø ¤ =) ¢ / Package Dimensions

, M y ƒ / Marking Instructions

QE23

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7 y V ñ —)í D } ö œ

E23 y º Z W A

Note:

Q: Automobile halogen-free product Code

E23 y Product Type Code

š WD t ... • Ž ¢ (x /) / : K S V K X G Z [X K 6 X U L O R K L U X / 8 8 K L R U] 9 U R J K X O T M 6

ª ¢ y

1o• Ä ½ “ † 150 ½200 - k ž • 60 ½120sec;

2o• Q › “ † 255 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

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

2.Peak Temp.:255 r5 - , Duration:5 r0.5sec.

3.Cooling Speed: 2~10 - /sec.

ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 - ž • y 10 r1 sec. Temp.:260±5 Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

Package Type 7>û ˜ E	Units ;>û ¦H	Dimension ;>û p . (unit Æmm^3) 3