



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

WBFBP-05C Digital transistors (built-in resistors)

FUMG9N TRANSISTOR

DESCRIPTION

Epitaxial planar type NPN silicon transistor
(Built-in resistor type)

FEATURES

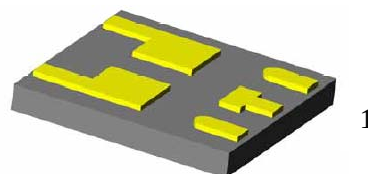
- Two DTC114E in a package.
- Mounting cost and area can be cut in half.

APPLICATION

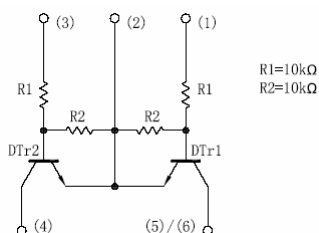
Dual Digital Transistors for Inverter Drive
For portable equipment:(i.e. Mobile phone,MP3, MD,CD-ROM,
DVD-ROM, Note book PC, etc.)

WBFBP-05C

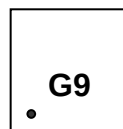
(2×2×0.5)
unit: mm



Equivalent circuit



MARKING:G9



Absolute maximum ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	50	V
Input voltage	V_{IN}	-10~40	V
Output current	I_O	50	mA
	$I_{C(MAX)}$	100	
Power dissipation	P_d	150	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~150	$^\circ\text{C}$

Electrical characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$			0.5	V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$	3				$V_O=0.3V, I_O=10mA$
Output voltage	$V_{O(on)}$			0.3	V	$I_O/I_I=10mA/0.5mA$
Input current	I_I			0.88	mA	$V_I=5V$
Output current	$I_{O(off)}$			0.5	μA	$V_{CC}=50V, V_I=0$
DC current gain	G_I	30				$V_O=5V, I_O=5mA$
Input resistance	R_1	7	10	13	K Ω	
Resistance ratio	R_2/R_1	0.8	1	1.2		
Transition frequency	f_T		250		MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$

Typical Characteristics

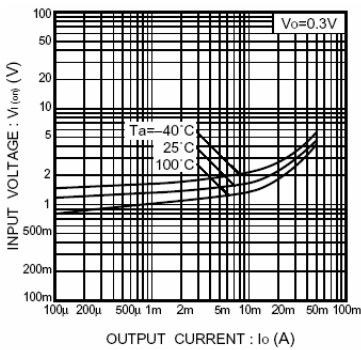


Fig.1 Input voltage vs. output current (ON characteristics)

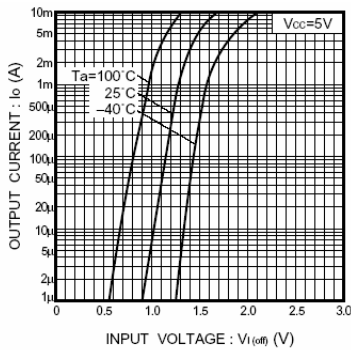


Fig.2 Output current vs. input voltage (OFF characteristics)

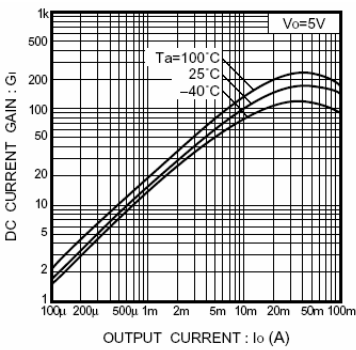


Fig.3 DC current gain vs. output current

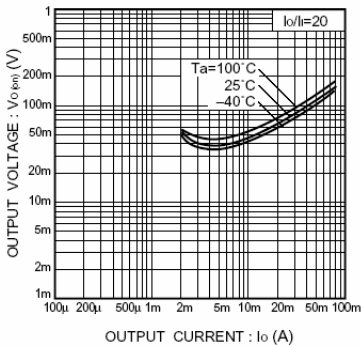
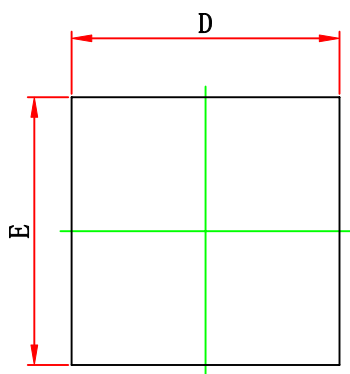


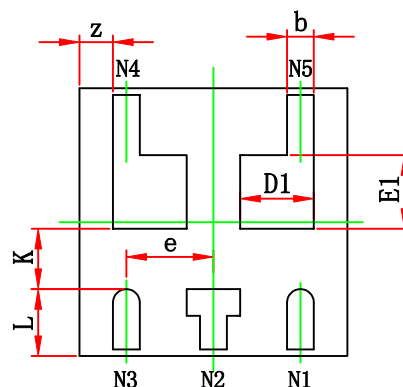
Fig.4 Output voltage vs. output current



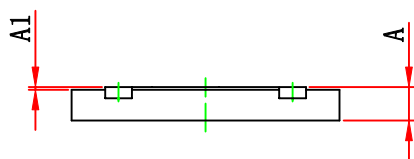
WBFBP-05C(2×2×0.5) PACKAGE OUTLINE DIMENSIONS



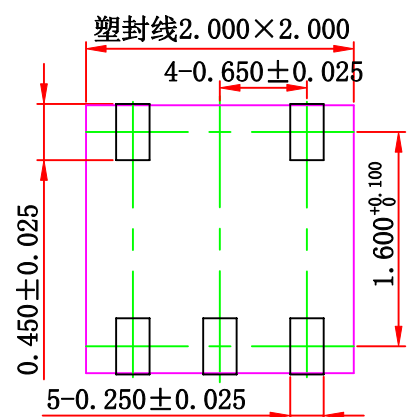
TOP VIEW



BOTTOM VIEW



SIDE VIEW



LAND PATTERN RECOMMENDATION

推荐焊盘图

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.000	0.100	0.000	0.004
b	0.150	0.250	0.006	0.010
D	1.900	2.100	0.075	0.083
E	1.900	2.100	0.075	0.083
D1	0.550 REF.		0.022 REF.	
E1	0.550 REF.		0.022 REF.	
e	0.650 TYP.		0.026 TYP.	
L	0.500 REF.		0.020 REF.	
k	0.450 REF.		0.018 REF.	
z	0.500 REF.		0.020 REF.	