



DBC2314

DUAL TRANSISTOR

DIGITAL TRANSISTOR (BUILT-IN BIAS RESISTORS)

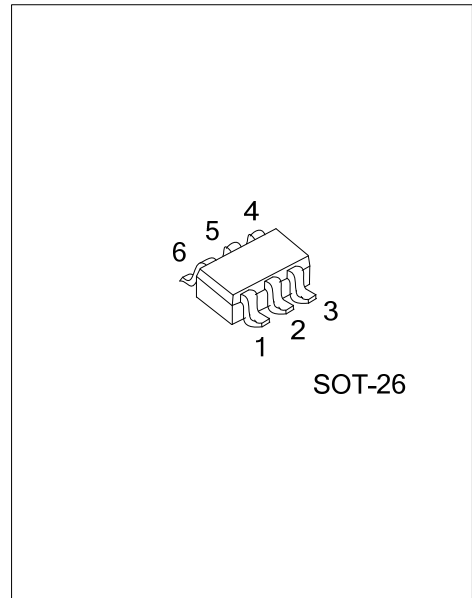
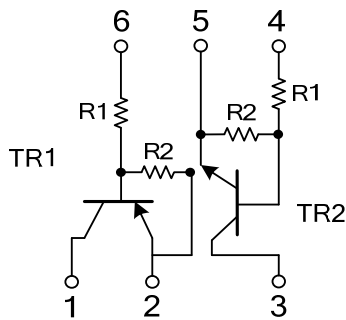
DESCRIPTION

- * Both the DTB123Y chip and DTC114Y chip in a SOT-26 package.
- * NPN/PNP silicon transistor(Built-in resistor type)

FEATURES

- * Built-in bias resistors that implies easy ON/OFF applications.
- * The bias resistors are thin-film resistors with complete isolation to allow positive input.

EQUIVALENT CIRCUITS



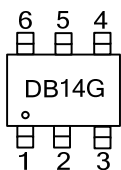
ORDERING INFORMATION

Ordering Number	Package	Pin Assignment						Packing
		1	2	3	4	5	6	
DBC2314G-AG6-R	SOT-26	C1	E1	C2	B2	E2	B1	Tape Reel

Note: Pin Assignment: C: Collector B: Base E: Emitter

<p>DBC2314G-AG6-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AG6: SOT-26</p> <p>(3) G: Halogen Free and Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage	TR1	V_{CC}	-50	V
	TR2		50	V
Input Voltage	TR1	V_{IN}	-12~+5	V
	TR2		-6~+40	V
Output Current	TR1	I_C	-500	mA
	TR2		100	mA
Power Dissipation		P_D	200	mW
Junction Temperature		T_J	+150	$^{\circ}\text{C}$
Storage Temperature		T_{STG}	-55~+150	$^{\circ}\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

TR1 (PNP)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Input Voltage	$V_{IN(OFF)}$	$V_{CC}=-5V, I_{OUT}=-100\mu A$			-0.3	V
	$V_{IN(ON)}$	$V_{OUT}=-0.3V, I_{OUT}=-20mA$	-2			
Output Voltage	$V_{OUT(ON)}$	$I_{OUT}/I_{IN}=-50mA/-2.5mA$		-0.1	-0.3	V
Input Current	I_{IN}	$V_{IN}=-5V$			-3.0	mA
Output Current	$I_{OUT(OFF)}$	$V_{CC}=-50V, V_{IN}=0V$			-0.5	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$V_{OUT}=-5V, I_{OUT}=-50mA$	56			
SMALL SIGNAL CHARACTERISTICS						
Input Resistance	R_1		1.54	2.2	2.86	K Ω
Resistor Ratio	R_2/R_1		3.6	4.5	5.5	
Transition Frequency (Note 1)	f_T	$V_{CE}=-10V, I_E=50mA, f=100MHz$		200		MHz

TR2 (NPN)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Input Voltage	$V_{IN(OFF)}$	$V_{CC}=5V, I_{OUT}=100\mu A$			0.3	V
	$V_{IN(ON)}$	$V_{OUT}=0.3V, I_{OUT}=1mA$	1.4			
Output Voltage	$V_{OUT(ON)}$	$I_{OUT}/I_{IN}=5mA/0.25mA$		0.1	0.3	V
Input Current	I_{IN}	$V_{IN}=5V$			0.88	mA
Output Current	$I_{OUT(OFF)}$	$V_{CC}=50V, V_{IN}=0V$			0.5	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$V_{OUT}=5V, I_{OUT}=5mA$	68			
SMALL SIGNAL CHARACTERISTICS						
Input Resistance	R_1		7	10	13	K Ω
Resistor Ratio	$\frac{R_2}{R_1}$		3.7	4.7	5.7	
Transition Frequency	f_T	$V_{CE}=10V, I_E=-5mA, f=100MHz$		250		MHz

Note 1. Transition frequency of the device

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