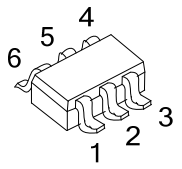
DBC2315

Preliminary | ***DUAL TRANSISTOR***

DIGITAL TRANSISTOR (BUILT-IN BIAS RESISTORS)



SOT-26

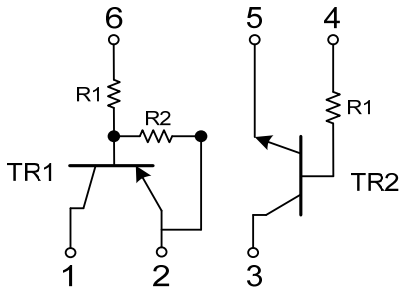
■ DESCRIPTION

* Both the DTB123Y chip and DTC115T 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	
DBC2315G-AG6-R	SOT-26	C1	E1	C2	B2	E2	B1	Tape Reel

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

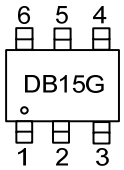
DBC2315G-AG6-R

(1)Packing Type — (1) R: Tape Reel

(2)Package Type — (2) AG6: SOT-26

(3)Green Package — (3) G: Halogen Free and Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	LIMITS	UNIT
Collector-Base Voltage	TR1	V_{CBO}	-50	V
	TR2		50	V
Collector-Emitter Voltage	TR1	V_{CEO}	-50	V
	TR2		50	V
Emitter-Base Voltage	TR1	V_{EBO}	-5	V
	TR2		5	V
Collector Current	TR1	I_C	-500	mA
	TR2		100	mA
Collector Power Dissipation		P_C	200	mW
Junction Temperature		T_J	150	°C
Storage Temperature		T_{STG}	-55~+150	°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°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} =-100μA			-0.3	V
	$V_{IN(ON)}$	V_{OUT} =-0.3V, I_{OUT} =-20mA	-2			V
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	KΩ
Resistor Ratio	R_2/R_1		3.6	4.5	5.5	
Transition Frequency (Note)	f_T	V_{CE} =-10V, I_E =50mA, f=100MHz		200		MHz

TR2 (NPN)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=50μA	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA	50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=50μA	5			V
Collector Cutoff Current	I_{CBO}	V_{CB}=50V			0.5	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V			0.5	μA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=1mA, I_B=0.1mA			0.3	V
ON CHARACTERISTICS						
DC Current Transfer Ratio	h_{FE}	V_{CE}=5V, I_C=1mA	100	250	600	
SMALL SIGNAL CHARACTERISTICS						
Input Resistance	R1		70	100	130	KΩ
Transition Frequency (Note)	f_T	V_{CE}=10V, I_E=-5mA, f=100MHz		250		MH_Z

Note: Transition frequency of the device.