

**DBC2315**

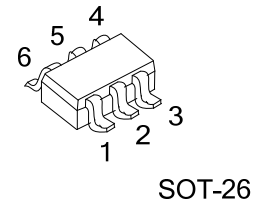
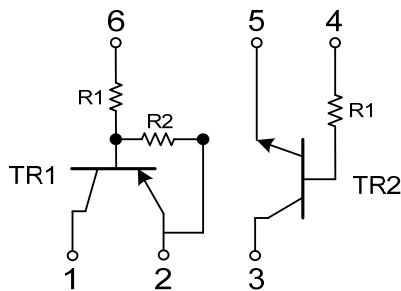
Preliminary

DUAL TRANSISTOR**DIGITAL TRANSISTOR
(BUILT-IN BIAS RESISTORS)****DESCRIPTION**

- * Both the DTB123Y chip and DTC115T chip in a SOT-26 package.
- * NPN/PNP silicon transistor(Built-in resistor type)

FEATURES

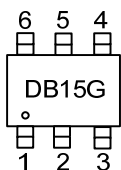
- * Built-in bias resistors that implies easy ON/OFF applications.
- * The bias resistors are thin-film resistors with complete isolation to allow positive input.

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 (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AG6: SOT-26 (3) G: Halogen Free and Lead Free
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MARKING

■ **ABSOLUTE MAXIMUM RATINGS** ($T_A=25^{\circ}\text{C}$, 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	$^{\circ}\text{C}$
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			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	K Ω
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}	$I_C=50\mu A$	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1mA$	50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=50\mu A$	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	R_1		70	100	130	K Ω
Transition Frequency (Note)	f_T	$V_{CE}=10V, I_E=-5mA, f=100MHz$		250		MHz

Note: Transition frequency of the device.

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