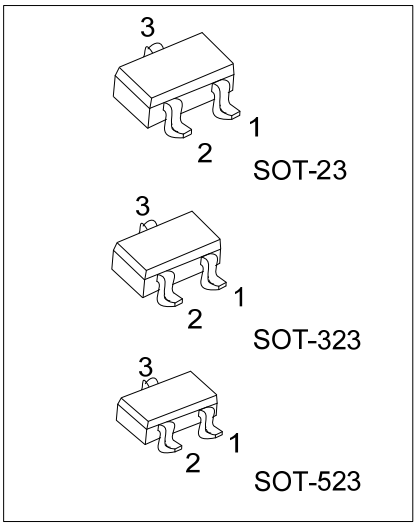
DTC115E

NPN SILICON TRANSISTOR

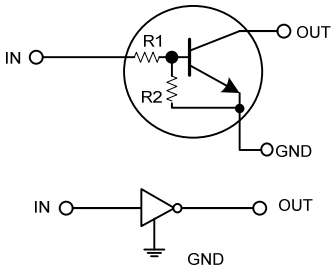
NPN DIGITAL TRANSISTOR (BUILT- IN BIAS RESISTORS)



■ FEATURES

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

■ EQUIVALENT CIRCUIT

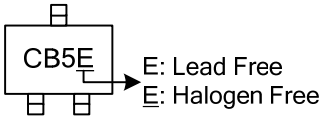


■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTC115EL-AE3-R	DTC115EG-AE3-R	SOT-23	G	I	O	Tape Reel
DTC115EL-AL3-R	DTC115EG-AL3-R	SOT-323	G	I	O	Tape Reel
DTC115EL-AN3-R	DTC115EG-AN3-R	SOT-523	G	I	O	Tape Reel

DTC115EL-AE3-R (1)Packing Type (2)Package Type (3)Lead Free	(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523 (3) G: Halogen Free, L: Lead Free

■ MARKING INFORMATION



■ ABSOLUTE MAXIMUM RATING (T_A=25℃)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V_{CC}	50	V
Input Voltage		V_{IN}	-10 ~ +40	V
Output Current		I_{OUT}	20	mA
		$I_{C(MAX)}$	100	
Power Dissipation	SOT-23/SOT-323	P_C	200	mW
	SOT-523		150	mW
Junction Temperature		T_J	+150	℃
Storage Temperature		T_{STG}	-55 ~ +150	℃

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℃, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(OFF)}$	V_{CC}=5V, I_{OUT}=100μA			0.5	V
	$V_{I(ON)}$	V_{OUT}=0.3V, I_{OUT}=1mA	3			
Output Voltage	$V_{OUT(ON)}$	I_{OUT}=5mA, I_{IN}=0.25mA		0.1	0.3	V
Input Current	I_{IN}	V_{IN}= 5V			0.15	mA
Output Current	$I_{O(OFF)}$	V_{CC}=50V, V_{IN}=0V			0.5	μA
DC Current Gain	G_I	V_{OUT}= 5V, I_{OUT}= 5mA	82			
Input Resistance	R1		70	100	130	kΩ
Resistance Ratio	R2/R1		0.8	1	1.2	
Transition Frequency	f_T	V_{CE}=10V, I_E=-5mA, f=100MHz (Note)		250		MHz

Note: Transition frequency of the device