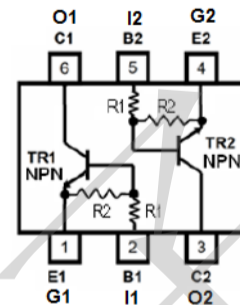


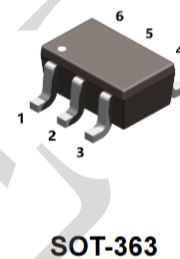
Features

- Two DTC114E transistors are built-in a package
- Epitaxial planar die construction
- Built-in biasing resistors (R1: 10kΩ, R2: 10kΩ)
- Also available in lead free version



Mechanical Data

- Case: SOT-363
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderable
 MIL-STD-202, Method 208



Ordering Information

Part Number	Package	Shipping Quantity
BCR133S	SOT-363	3000 pcs / Tape & Reel

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value		Unit
		TR1	TR2	
Supply Voltage	V_{CC}	50	50	V
Input Voltage	V_{IN}	-10 to +40	-10 to +40	V
Output Current	I_O	50	50	mA
Collector Current	$I_{C(Max)}$	100	100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	150	mW
Operating Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Electrical Characteristics-TR1 and TR2

(@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min .	Typ.	Max	Unit
Input Voltage	$V_{I(off)}$	$V_{CC} = 5V, I_O = 100\mu A$	0.5	-	-	V
	$V_{I(on)}$	$V_O = 0.3V, I_O = 10mA$	-	-	3	V
Output Voltage	$V_{O(on)}$	$I_O = 10mA, I_I = 0.5mA$	-	0.1	0.3	V
Input Current	I_I	$V_I = 5V$	-	-	0.88	mA
Output Current	$I_{O(off)}$	$V_{CC} = 50V, V_I = 0V$	-	-	0.5	μA
DC Current Gain	G_I	$V_O = 5V, I_O = 5mA$	30	-	-	-
Input Resistor	R_1		7	10	13	k Ω
Resistance Ratio	R_2/R_1		0.8	1	1.2	
Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_E = 5mA,$ $f = 100MHz$	-	250	-	MHz

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

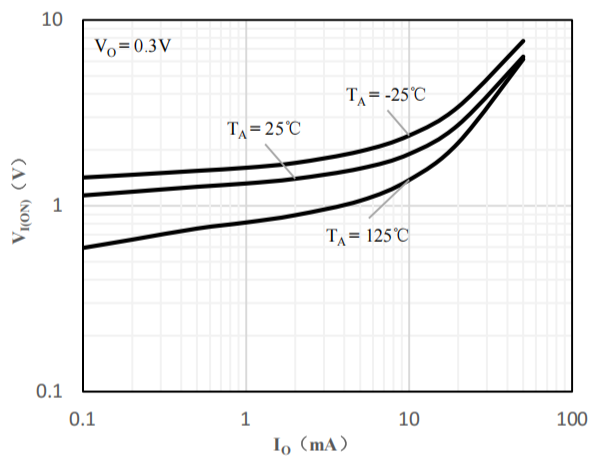


Fig 1 Input Voltage vs Output Current

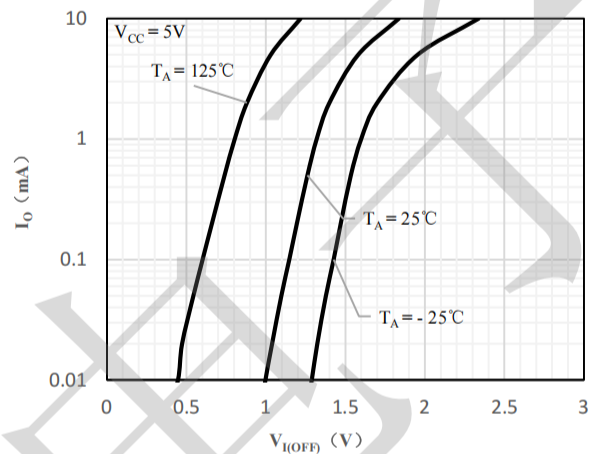


Fig 2 Output Current vs Input Voltage

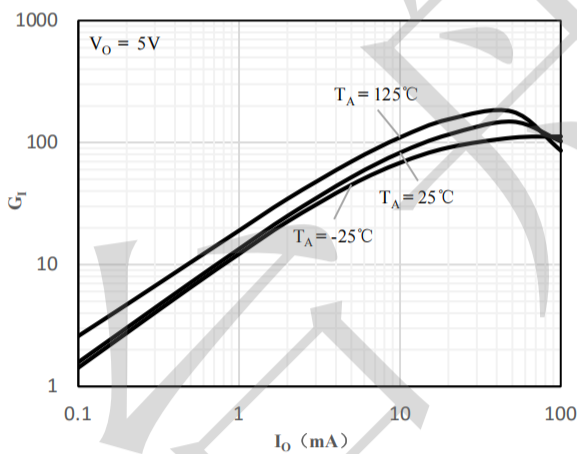


Fig 3 DC Current Gain vs Output Current

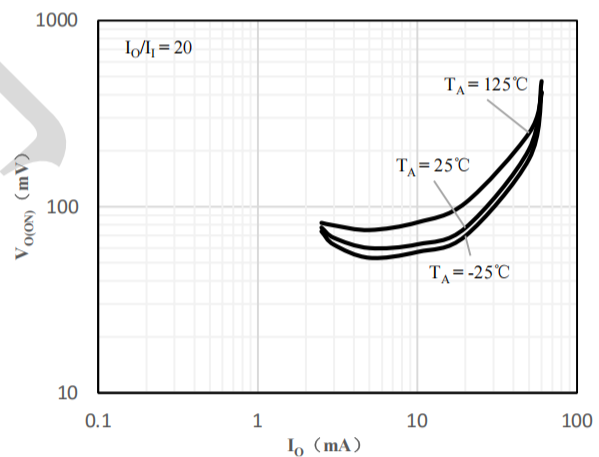
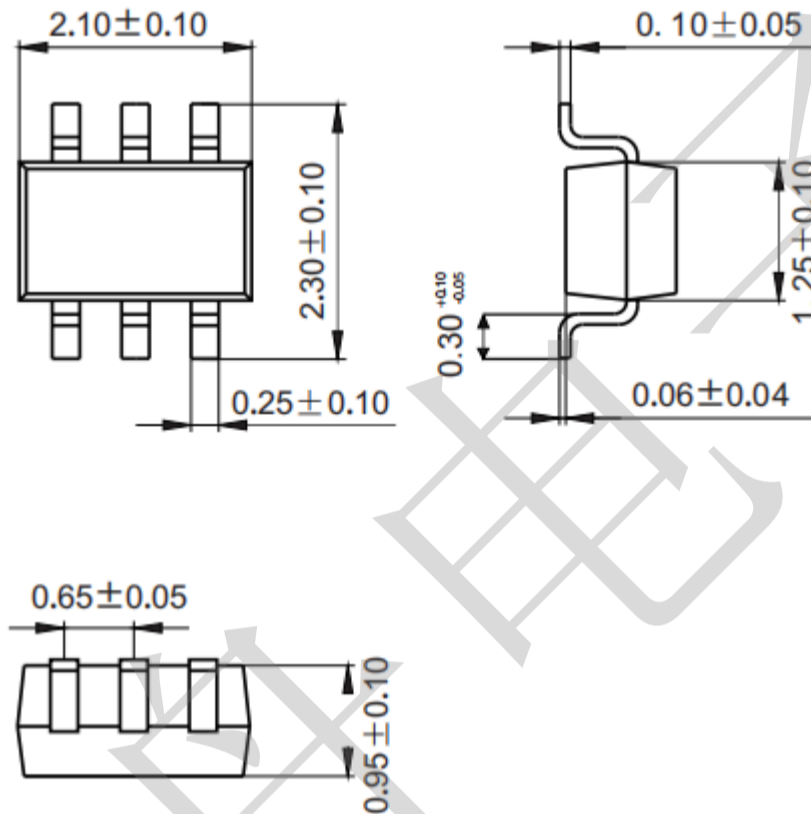


Fig 4 Output Voltage vs Output Current

Package Outline Dimensions (unit:mm)

SOT-363



Mounting Pad Layout (unit: mm)

