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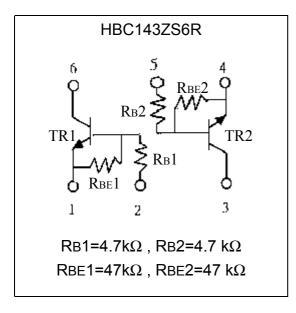
### **Dual NPN Digital Transistors**

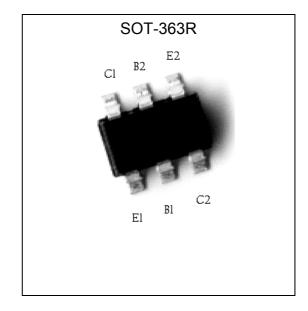
# HBC143ZS6R

### **Features**

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- Only the on/off conditions need to be set for operation, making device design easy.
- •Two DTC143Z chips in a SOT-363 package.
- •Mounting by SOT-323 automatic mounting machines is possible.
- •Mounting cost and area can be cut in half.
- •Transistor elements are independent, eliminating interference
- Complements the HBA143ZS6R

### **Equivalent Circuit**





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# **Absolute Maximum Ratings** (Each Transistor, Ta=25°ℂ)

Parameter	Symbol	Limits	Unit
Supply Voltage	Vcc	50	V
Input Voltage	V <sub>IN</sub>	-5~+30	V
Output Current	Io	100	mA
	IO(max.)	100	mA
Power Dissipation	Pd	200 (Note)	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note: 150mW per element must not be exceeded.

### **Characteristics** (Each Transistor, Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Test Conditions	
Input Voltage	VI(off)	-	-	0.5	V	Vcc=5V, Io=100μA	
	VI(on)	1.3	ı	-	V	Vo=0.3V, Io=5mA	
Output Voltage	VO(on)	-	0.1	0.3	V	Io/II=5mA/0.25mA	
Input Current	II	-	ı	1.8	mA	V <sub>I</sub> =5V	
Output Current	IO(off)	-	ı	0.5	μΑ	Vcc=50V, Vi=0V	
DC Current Gain	Gı	80	ı	-	-	Vo=5V, Io=10mA	
Input Resistance	R1	3.29	4.7	6.11	kΩ	-	
Resistance Ratio	R2/R1	8	10	12	-	-	
Transition Frequency	fT	-	250	-	MHz	Vce=10V, Ic=5mA, f=100MHz*	

<sup>\*</sup> Transition frequency of the device

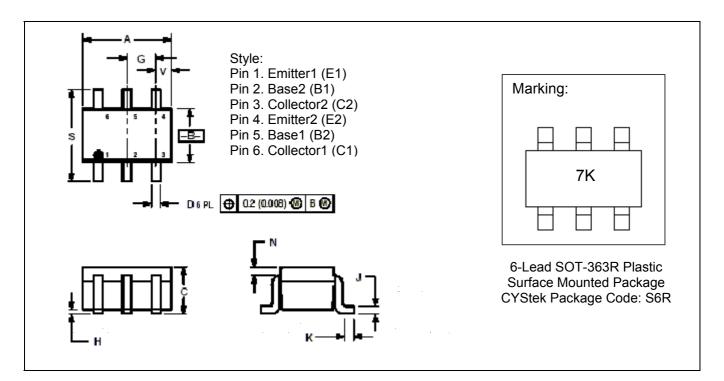


# **CYStech Electronics Corp.**

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### **SOT-363R Dimension**



#### \*:Typical

DIM -	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.	ווווט	Min.	Max.	Min.	Max.
Α	0.071	0.087	1.8	2.2	J	0.004	0.010	0.1	0.25
В	0.045	0.053	1.15	1.35	K	0.004	0.012	0.1	0.30
С	0.031	0.043	0.8	1.1	N	0.008 REF		0.20 REF	
D	0.004	0.012	0.1	0.3	S	0.079	0.087	2.00	2.20
G	0.026	26BSC 0.65BSC		Y	0.012	0.016	0.30	0.40	
Н	-	0.004	-	0.1					

Notes: 1.Controlling dimension: millimeters.

2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material. 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

#### Material:

• Lead : 42 Alloy ; solder plating

• Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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