

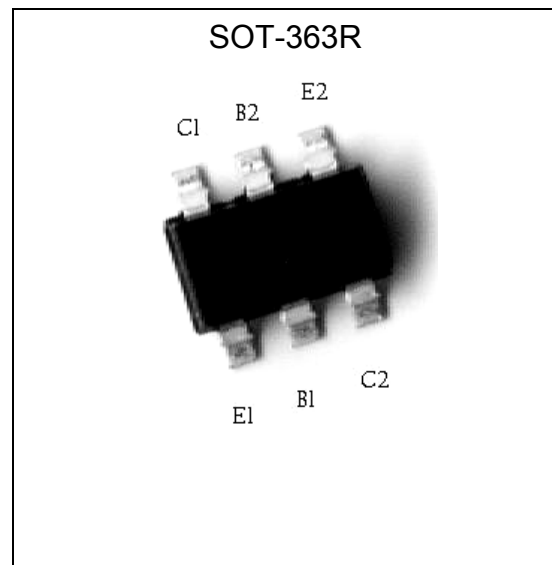
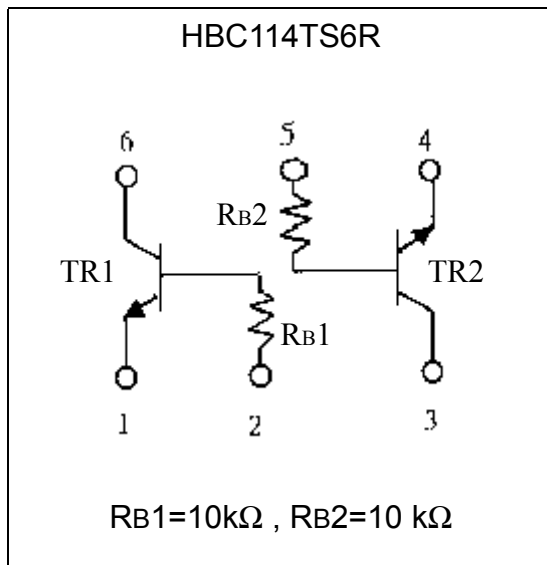
Dual NPN Digital Transistors

HBC114TS6R

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 DTC114T 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 HBA114TN6R

Equivalent Circuit



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

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CBO}	50	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	100	mA
Power Dissipation	P _d	200 (Note)	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

Note: 150mW per element must not be exceeded.

Characteristics (Each Transistor, Ta=25°C)

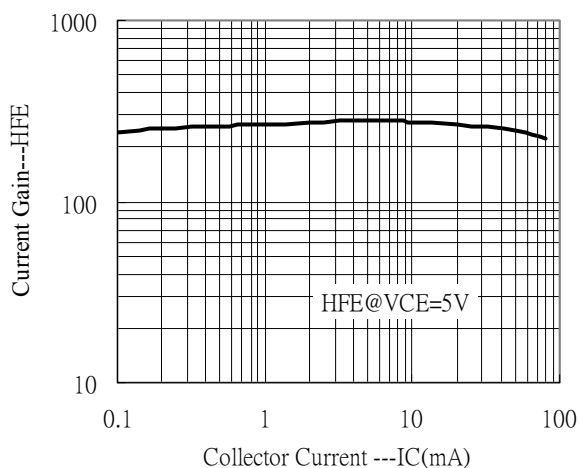
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	V _{CBO}	50	-	-	V	I _C =50μA
Collector-Emitter Breakdown Voltage	V _{CEO}	50	-	-	V	I _C =1mA
Emitter-Base Breakdown Voltage	V _{EBO}	5	-	-	V	I _E =50μA
Collector-Base Cutoff Current	I _{CBO}	-	-	0.5	μA	V _{CB} =50V
Emitter-Base Cutoff Current	I _{EBO}	-	-	0.5	μA	V _{EB} =4V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	-	-	0.3	V	I _C =10mA, I _B =1mA
DC Current Gain	h _{FE}	100	-	600	-	V _{CE} =5V, I _C =1mA
Input Resistance	R	7	10	13	kΩ	-
Transition Frequency	f _T	-	250	-	MHz	V _{CE} =10V, I _C =5mA, f=100MHz *

* Transition frequency of the device

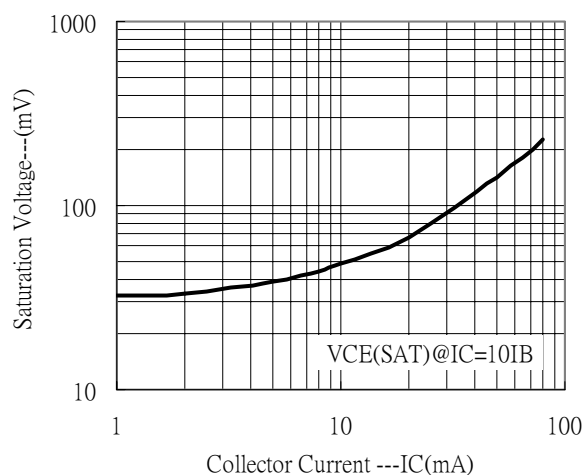


Characteristic Curves

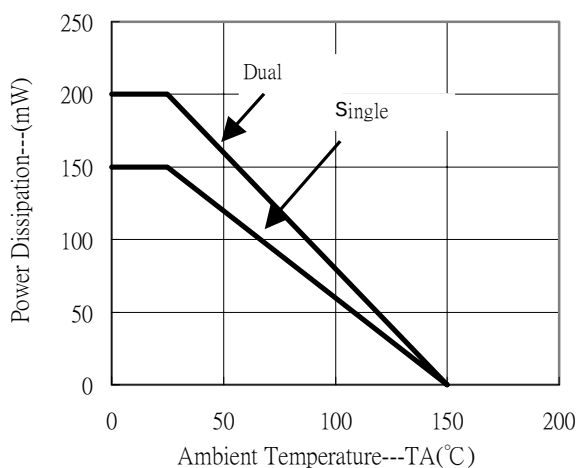
DC Current Gain vs Collector Current



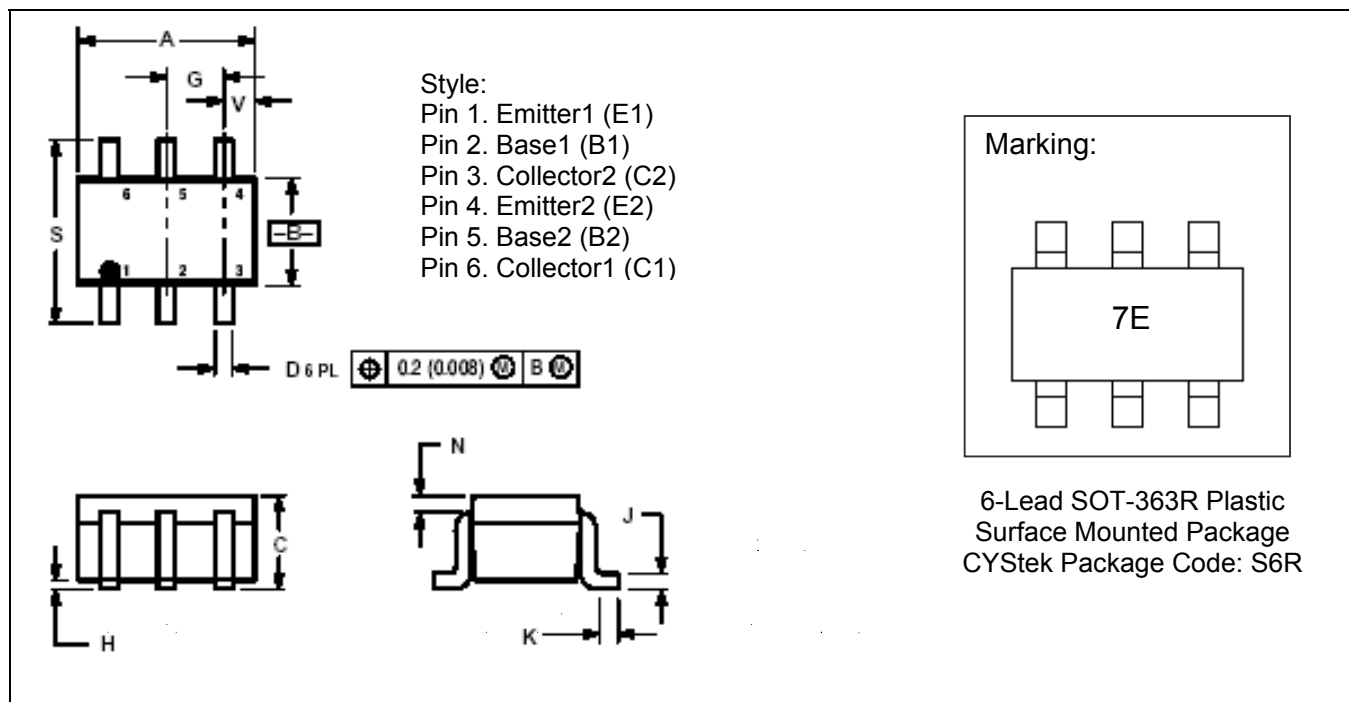
Saturation Voltage vs Collector Current



Power Derating Curves



SOT-363R Dimension



*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.071	0.087	1.8	2.2	J	0.004	0.010	0.1	0.25
B	0.045	0.053	1.15	1.35	K	0.004	0.012	0.1	0.30
C	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	0.026BSC		0.65BSC		Y	0.012	0.016	0.30	0.40
H	-	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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