

Dual General Purpose NPN Transistors

HBN3904S6R

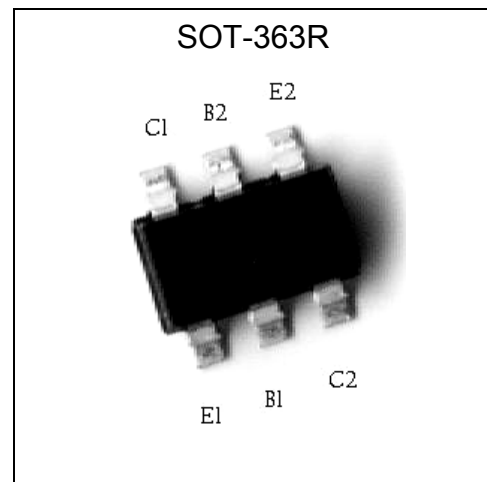
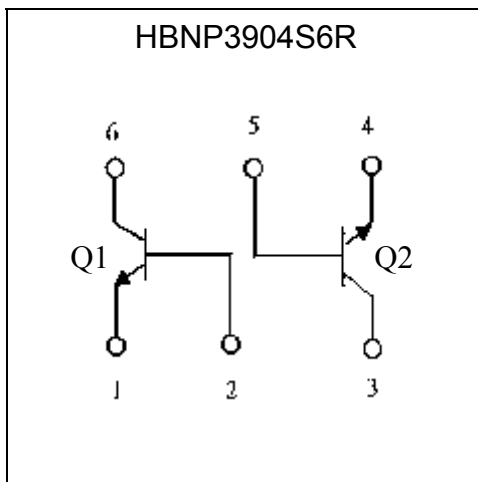
Description

The HBN3904S6R is a spin-off of our popular SOT-23/SOT-323 three-leaded devices. It is designed for general purpose amplifier applications and is housed in the SOT-363R six-leaded surface mount package. By putting two discrete devices in one package, this device is ideal for low power surface mount applications where board space is at a premium.

Features

- HFE, 100--300
- Low VCE(sat), $\leq 0.4V$
- Simplifies circuit design
- Reduces board space.
- Reduces component count

Equivalent Circuit



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	VCBO	60	V
Collector-Emitter Voltage	VCEO	40	V
Emitter-Base Voltage	VEBO	6	V
Collector Current	IC	200	mA
Total Package Dissipation@TA=25°C	Pd	150 (Note 1)	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

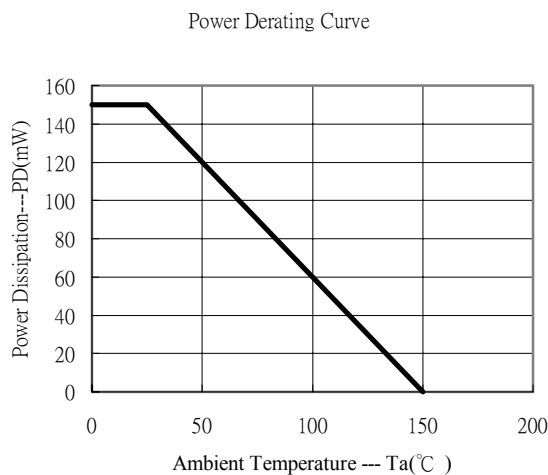
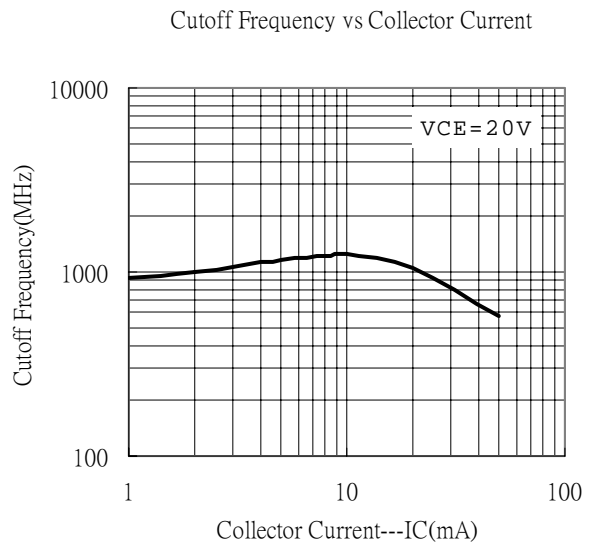
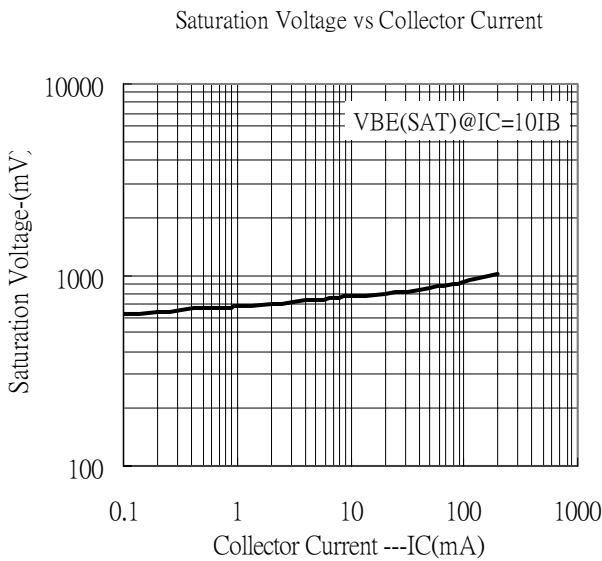
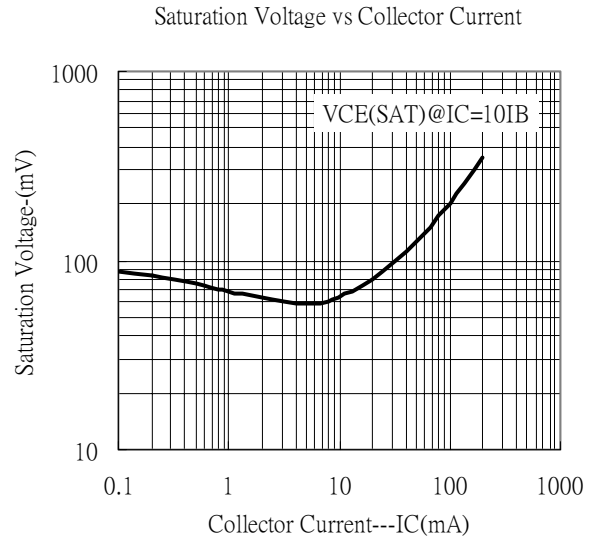
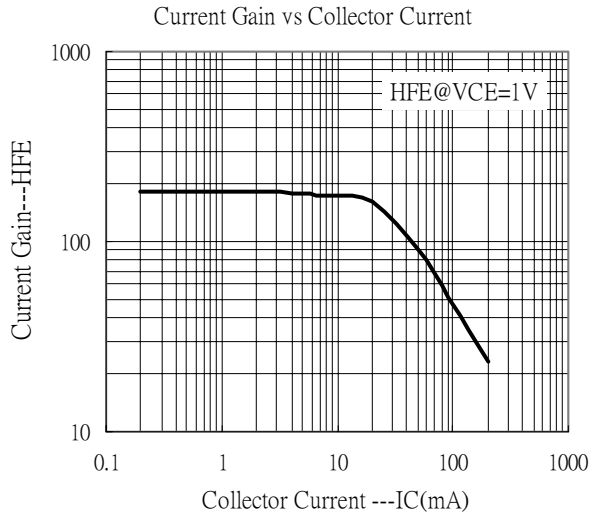
Note 1: Device mounted on a FR-4 glass epoxy PCB with area measuring 1.0x 0.75x 0.062in.

**Characteristics** (Ta=25°C)

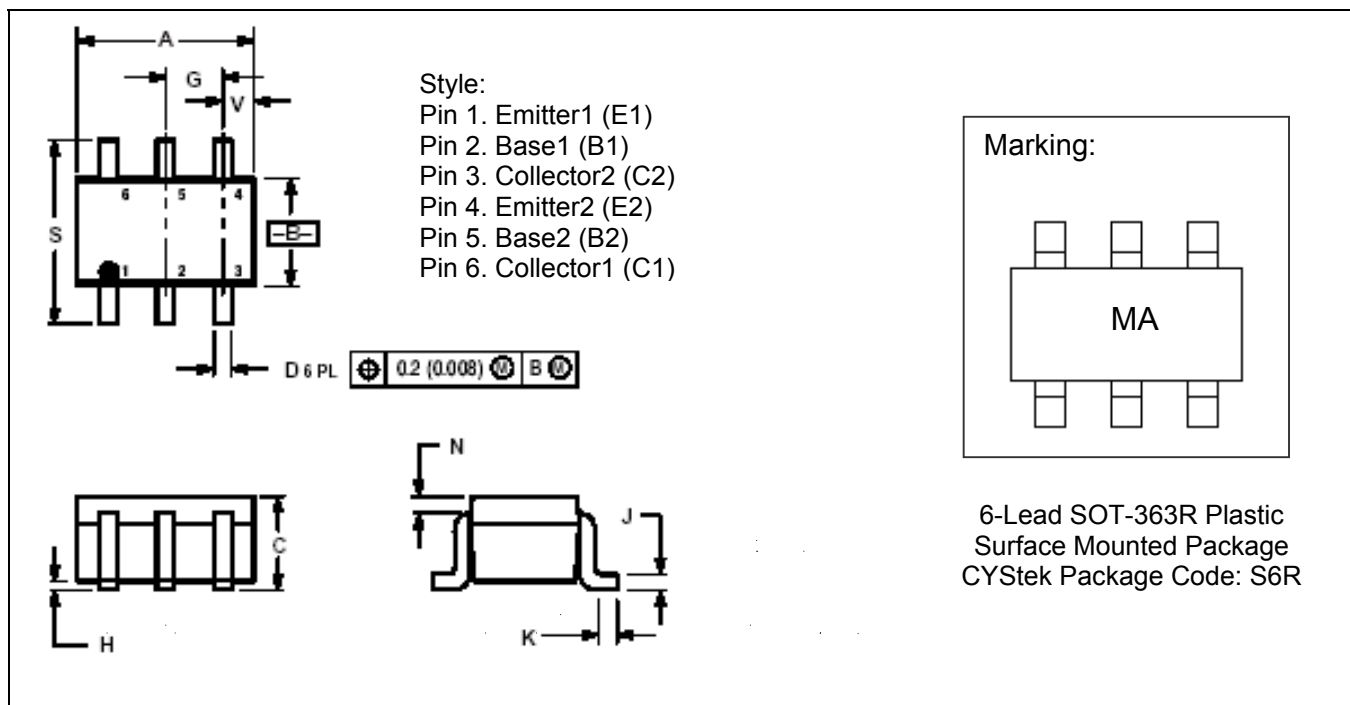
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	60	-	-	V	IC=10uA
BVCEO	40	-	-	V	IC=1mA
BVEBO	6	-	-	V	IE=10uA
ICBO	-	-	100	nA	VCB=50V
ICEX	-	-	50	nA	VCE=30V, VEB=3V
IEBO	-	-	100	nA	VEB=5V
VCE(sat)	-	-	0.2	V	IC=10mA, IB=1mA
VCE(sat)	-	-	0.3	V	IC=50mA, IB=5mA
VBE(sat)	-	-	0.85	V	IC=10mA, IB=1mA
VBE(sat)	-	-	0.95	V	IC=50mA, IB=5mA
hFE	40	-	-	-	VCE=1V, IC=100uA
hFE	70	-	-	-	VCE=1V, IC=1mA
hFE	100	-	300	-	VCE=1V, IC=10mA
hFE	60	-	-	-	VCE=1V, IC=50mA
*hFE	30	-	-	-	VCE=1V, IC=100mA
fT	300	-	-	MHz	VCE=20V, IC=10mA, f=100MHz
Cob	-	-	4	pF	VCB=5V, f=1MHz

*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

Characteristic 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

Important Notice:

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of CYStek.
- CYStek reserves the right to make changes to its products without notice.
- CYStek **semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.**
- CYStek assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.