General Purpose NPN Epitaxial Planar Transistors

(dual transistors)

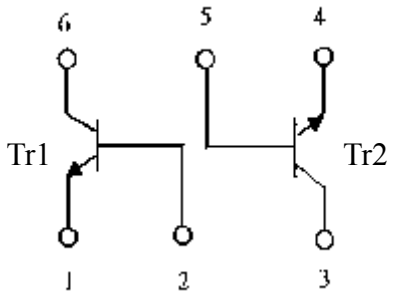
HBN222S6R

Features

- Two BTN2222A chips in a SOT-363R package.
- Mounting possible with SOT-323 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Mounting cost and area can be cut in half.

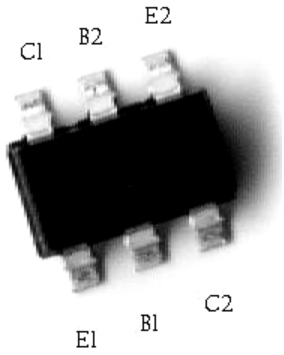
Equivalent Circuit

HBN2222S6R



Outline

SOT-363R



The following characteristics apply to both Tr1 and Tr2

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Power Dissipation	Pd	300(total) *1	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : *1 200mW per element must not be exceeded

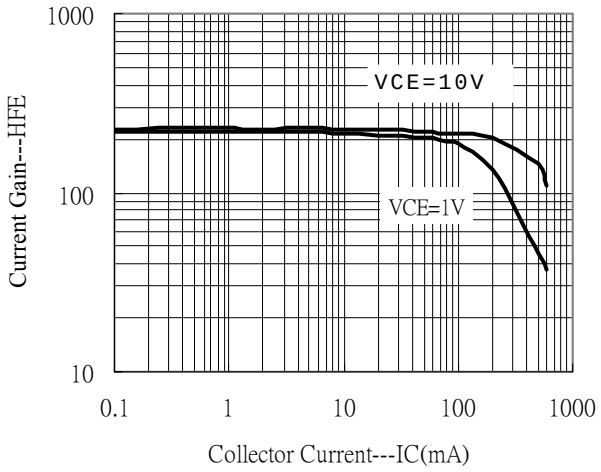
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	75	-	-	V	I_C=10μA
BV_{CEO}	40	-	-	V	I_C=10mA
BV_{EBO}	6	-	-	V	I_E=10μA
I_{CBO}	-	-	10	nA	V_{CB}=60V
I_{CEX}	-	-	10	nA	V_{CB}=60V, $V_{EB(off)}$ = 3V
I_{EBO}	-	-	100	nA	V_{EB}=3V
*$V_{CE(sat)}$ 1	-	-	0.3	V	I_C=150mA, I_B=15mA
*$V_{CE(sat)}$ 2	-	-	1.0	V	I_C=500mA, I_B=50mA
*$V_{BE(sat)}$ 1	-	-	1.2	V	I_C=150mA, I_B=15mA
*$V_{BE(sat)}$ 2	-	-	2.0	V	I_C=500mA, I_B=50mA
*h_{FE} 1	35	-	-	-	V_{CE}=10V, I_C=100μA
*h_{FE} 2	50	-	-	-	V_{CE}=10V, I_C=1mA
*h_{FE} 3	75	-	-	-	V_{CE}=10V, I_C=10mA
*h_{FE} 4	100	-	300	-	V_{CE}=10V, I_C=150mA
*h_{FE} 5	50	-	-	-	V_{CE}=1V, I_C=150mA
*h_{FE} 6	40	-	-	-	V_{CE}=10V, I_C=500mA
f_T	300	-	-	MHz	V_{CE}=20V, I_C=20mA, f=100MHz
Cob	-	-	8	pF	V_{CB}=10V, f=1MHz

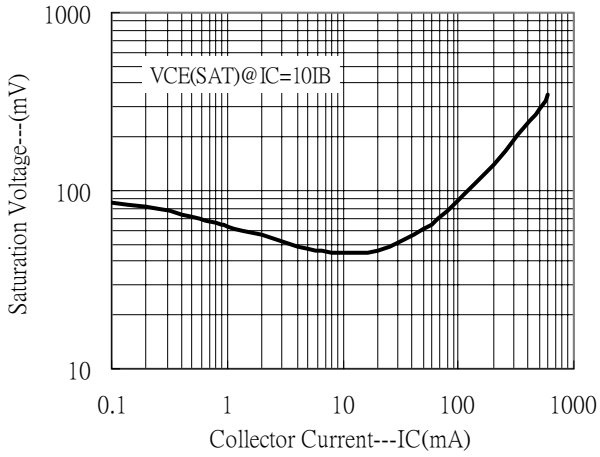
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Characteristic Curves

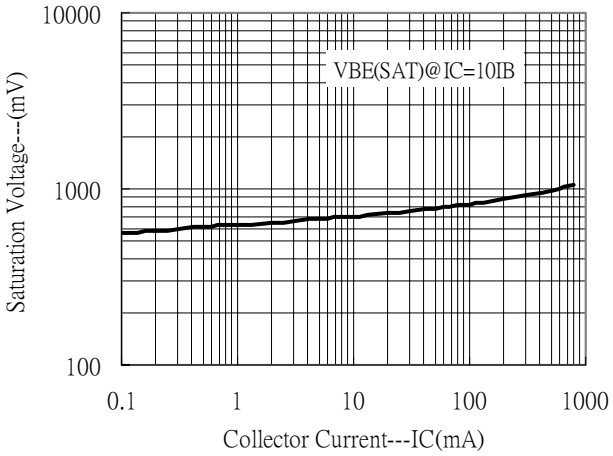
Current Gain vs Collector Current



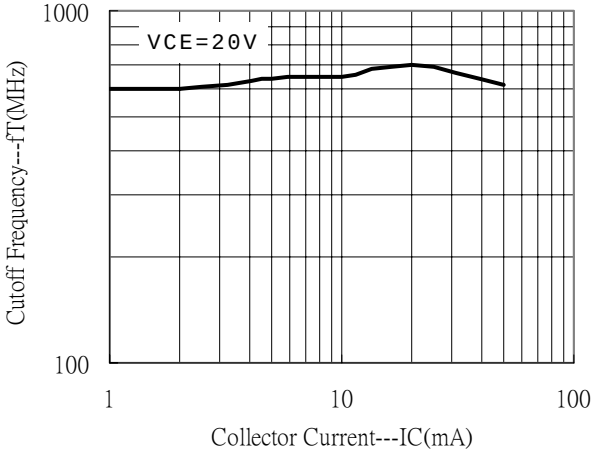
Saturation Voltage vs Collector Current



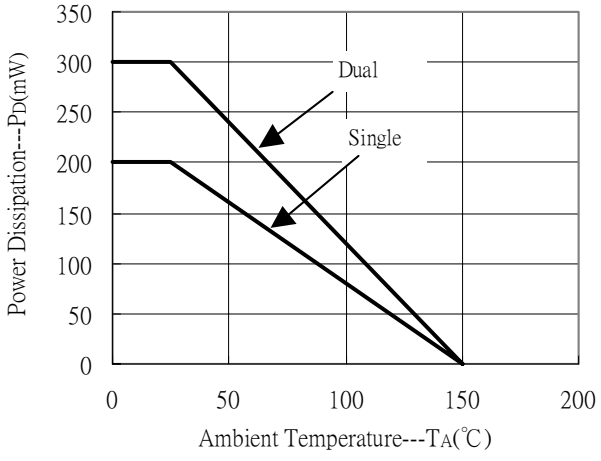
Saturation Voltage vs Collector Current



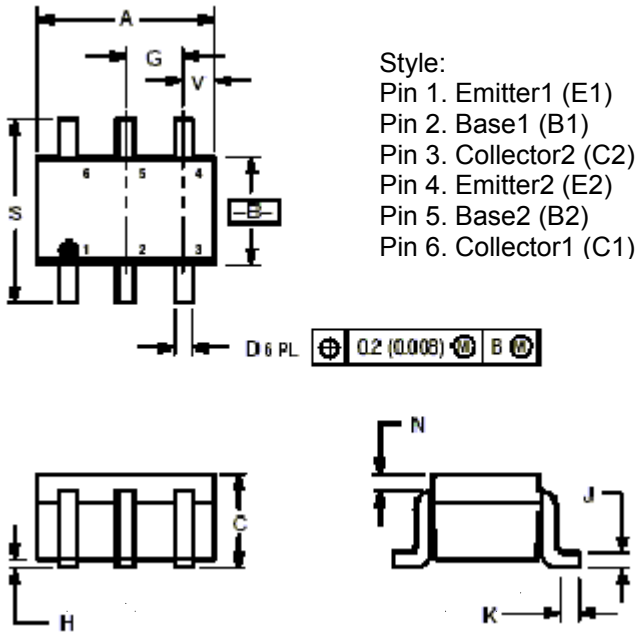
Cutoff Frequency vs Collector Current



Power Derating Curves

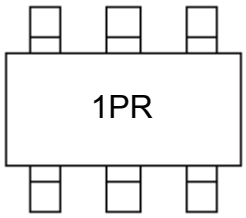


SOT-363R Dimension



Style:
Pin 1. Emitter1 (E1)
Pin 2. Base1 (B1)
Pin 3. Collector2 (C2)
Pin 4. Emitter2 (E2)
Pin 5. Base2 (B2)
Pin 6. Collector1 (C1)

Marking:



6-Lead SOT-363R Plastic
Surface Mounted Package
CYStek Package Code: S6R

*: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	2.40
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