General Purpose NPN Epitaxial Planar Transistors

(dual transistors)

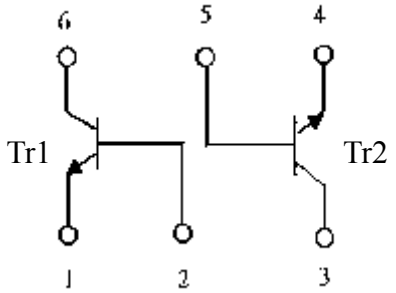
HBN2411S6R

Features

- Two BTC2411chips in a SOT-363 package.
- Mounting possible with SOT-323 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Mounting cost and area can be cut in half.
- High $I_{C(Max)}$. $I_{C\ (Max)}$ = 0.6A
- Low $V_{CE(sat)}$, TYP. $V_{CE(sat)}$ = 0.2V at I_C/I_B = 500mA/50mA
  Optimal for low Voltage operation
- Complementary to HBP1036S6R

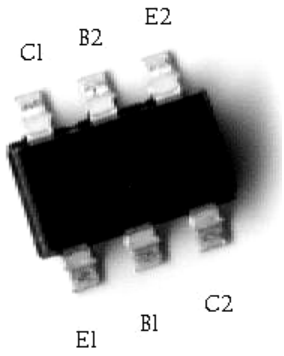
Equivalent Circuit

HBN2411S6R



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}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	0.6	A
Power Dissipation	Pd	200(total) (Note)	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : 150mW per element must not be exceeded.

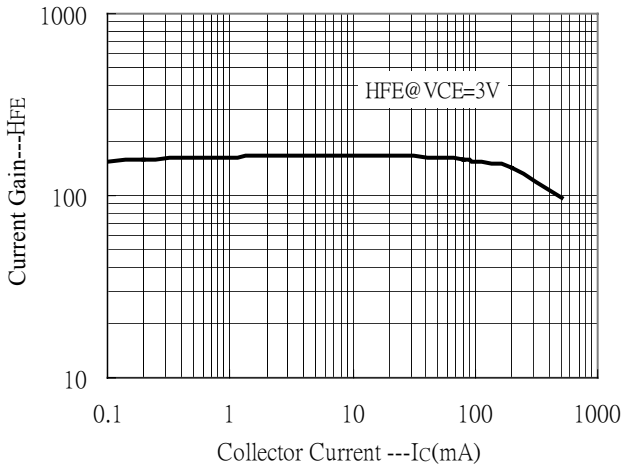
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	60	-	-	V	I_C=100μA
BV_{CEO}	40	-	-	V	I_C=1mA
BV_{EBO}	6	-	-	V	I_E=10μA
I_{CEX}	-	-	100	nA	V_{CE}=35V, V_{EB}=0.4V
*$V_{CE(sat)}$ 1	-	-	0.4	V	I_C=150mA, I_B=15mA
*$V_{CE(sat)}$ 2	-	0.2	0.75	V	I_C=500mA, I_B=50mA
*$V_{BE(sat)}$ 1	-	-	0.95	V	I_C=150mA, I_B=15mA
*$V_{BE(sat)}$ 2	-	-	1.2	V	I_C=500mA, I_B=50mA
h_{FE} 1	20	-	-		V_{CE}=1V, I_C=100μA
h_{FE} 2	40	-	-		V_{CE}=1V, I_C=1mA
*h_{FE} 3	80	-	-		V_{CE}=1V, I_C=10mA
*h_{FE} 4	82	-	390		V_{CE}=1V, I_C=150mA
*h_{FE} 5	40	-	-		V_{CE}=2V, I_C=500mA
f_T	-	250	-	MHz	V_{CE}=5V, I_C=20mA, f=100MHz
Cob	-	6	-	pF	V_{CB}=5V, f=1MHz

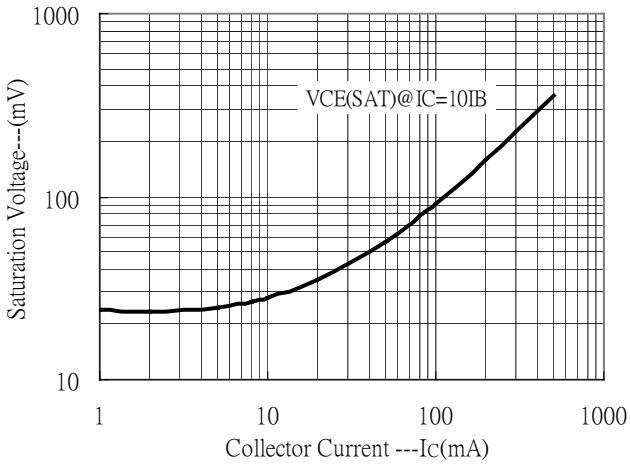
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Characteristic Curves

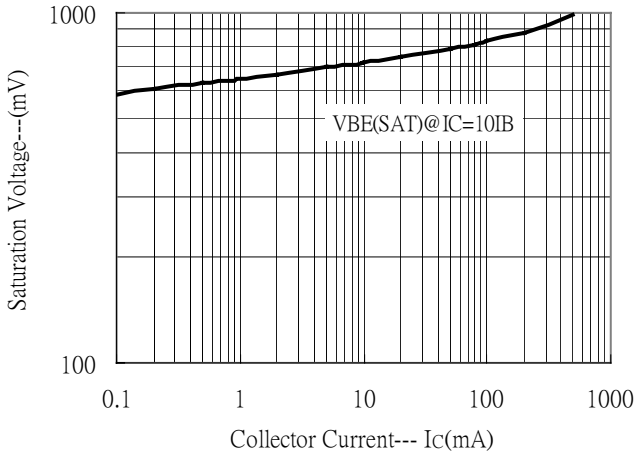
Current Gain vs Collector Current



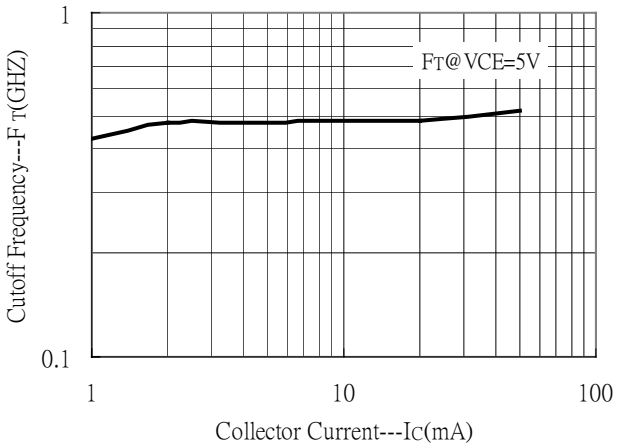
Saturation Voltage vs Collector Current



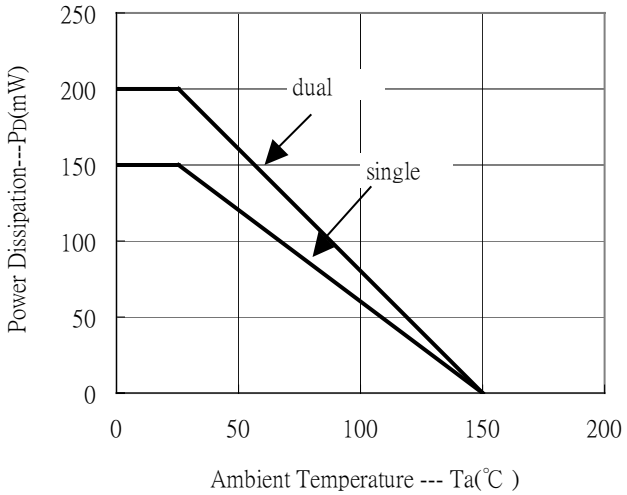
Saturation Voltage vs Collector Current



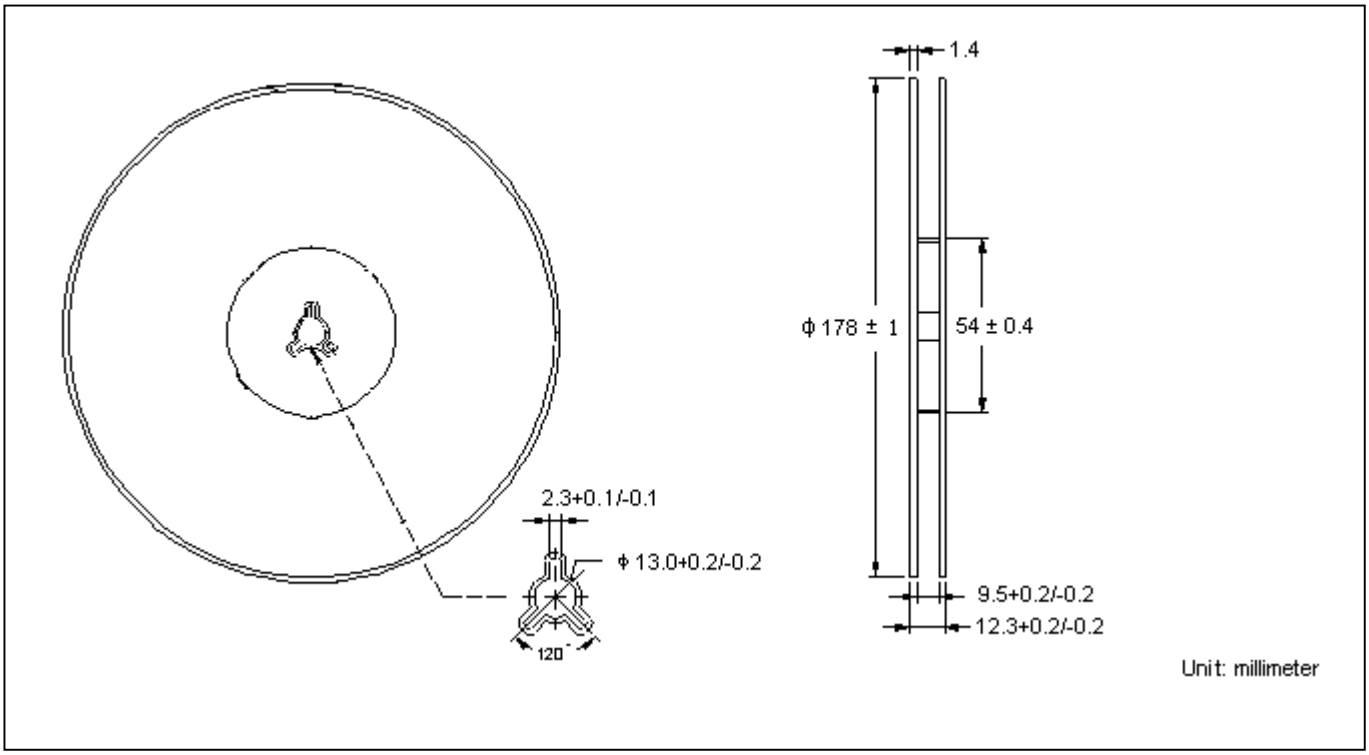
Cutoff Frequency vs Collector Current



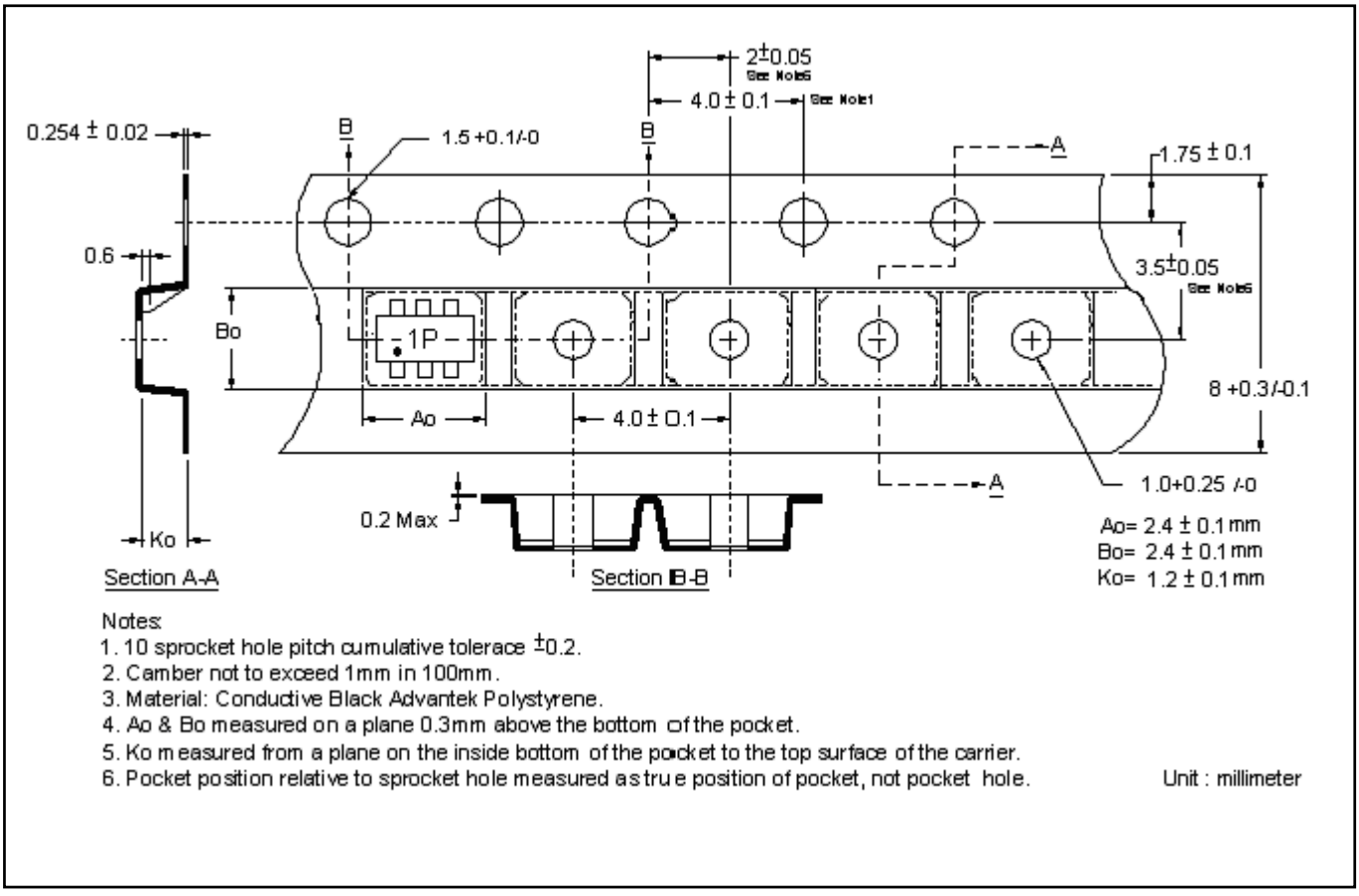
Power Derating Curves



Reel Dimension



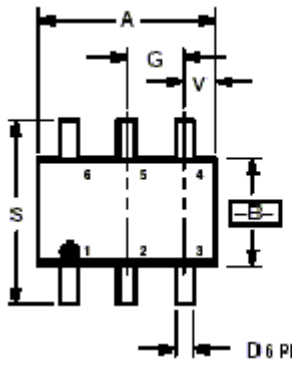
Carrier Tape Dimension



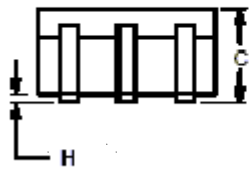
Notes:
1. 10 sprocket hole pitch cumulative tolerace ±0.2.
2. Camber not to exceed 1mm in 100mm.
3. Material: Conductive Black Advantek Polystyrene.
4. Ao & Bo measured on a plane 0.3mm above the bottom of the pocket.
5. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

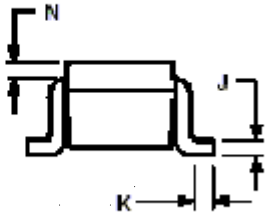
Unit : millimeter

SOT-363R Dimension

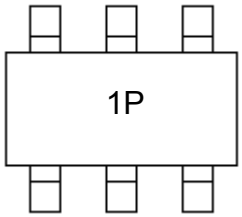


Style:
Pin 1. Emitter1 (E1)
Pin 2. Base1 (B1)
Pin 3. Collector2 (C2)
Pin 4. Emitter2 (E2)
Pin 5. Base2 (B2)
Pin 6. Collector1 (C1)





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