

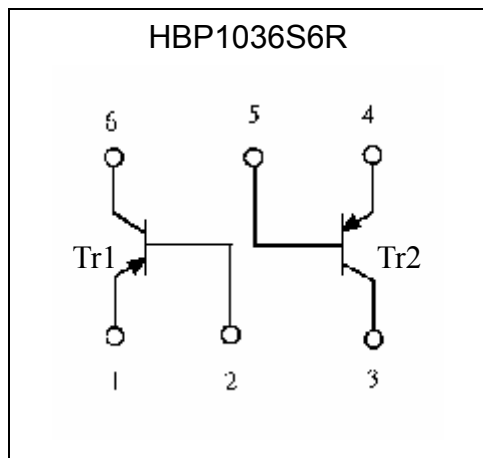
**General Purpose PNP Epitaxial Planar Transistors  
 (dual transistors)**

# HBP1036S6R

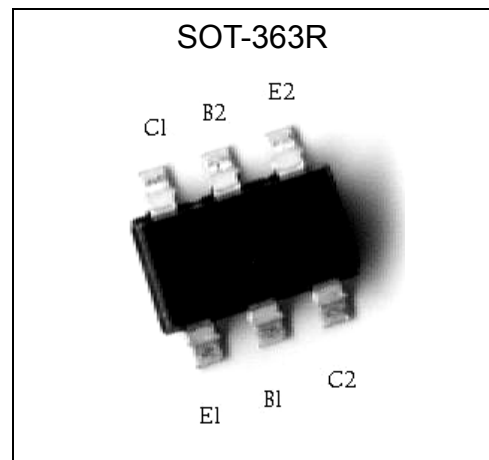
**Features**

- Two BTA1036 chips 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.
- Excellent hFE linearity.
- Complementary to HBN2411S6R.
- Pb-free lead plating and halogen-free package

**Equivalent Circuit**



**Outline**



**The following characteristics apply to both Tr1 and Tr2**

**Absolute Maximum Ratings** (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V <sub>CB0</sub>	-60	V
Collector-Emitter Voltage	V <sub>CE0</sub>	-60	V
Emitter-Base Voltage	V <sub>EB0</sub>	-6	V
Collector Current	I <sub>C</sub>	-500	mA
Power Dissipation	P <sub>d</sub>	200(total) (Note)	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55~+150	°C

**Note: 150mW per element must not be exceeded.**



**Characteristics** (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	-60	-	-	V	IC=-100μA
BVCEO	-60	-	-	V	IC=-1mA
BVEBO	-6	-	-	V	IE=-100μA
ICBO	-	-	-10	nA	VCB=-60V
IEBO	-	-	-10	nA	VEB=-6V
*VCE(sat)	-	-	-0.4	V	IC=-150mA, IB=-15mA
*hFE	120	-	390	-	VCE=-3V, IC=-10mA
fT	100	230	-	MHz	VCE=-10V, IC=-50mA, f=100MHz
Cob	-	12	-	pF	VCB=-10V, f=1MHz

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

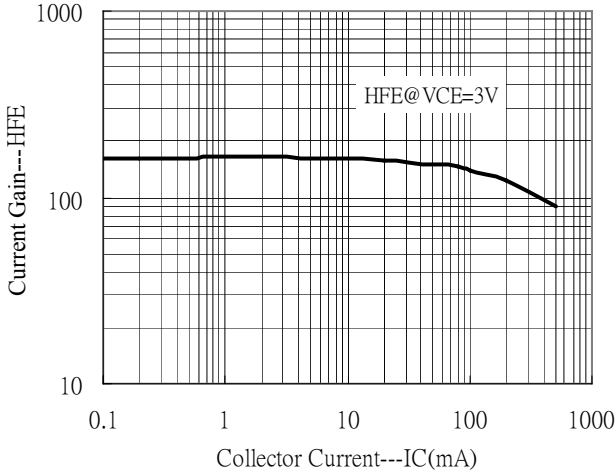
**Ordering Information**

Device	Package	Shipping	Marking
HBP1036S6R	SOT-363 (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel	2FR

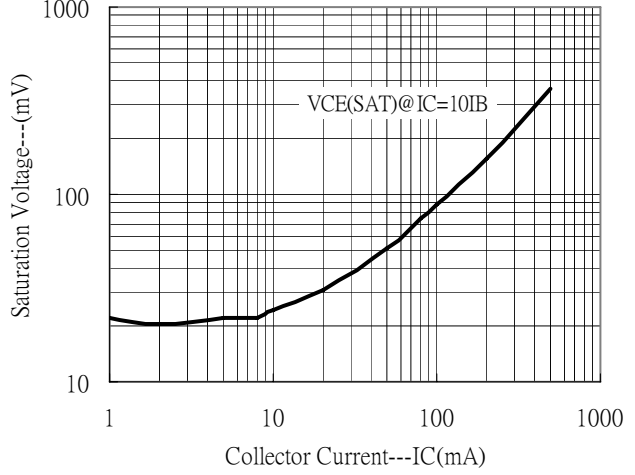


### Typical Characteristics

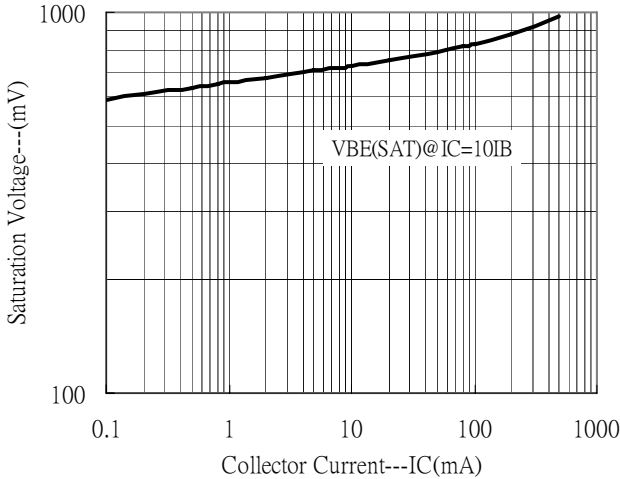
Current Gain vs Collector Current



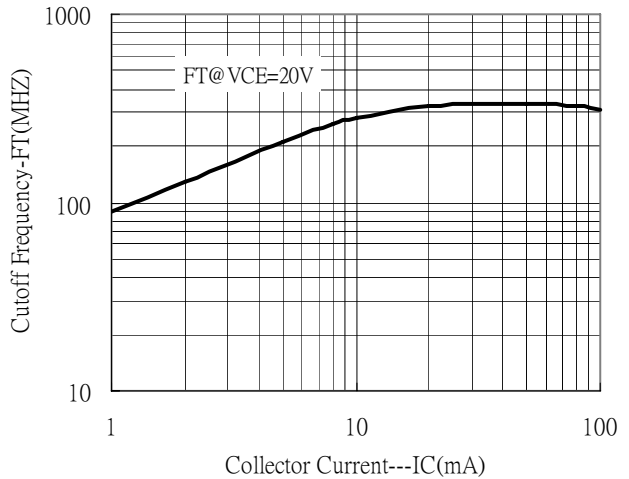
Saturation Voltage vs Collector Current



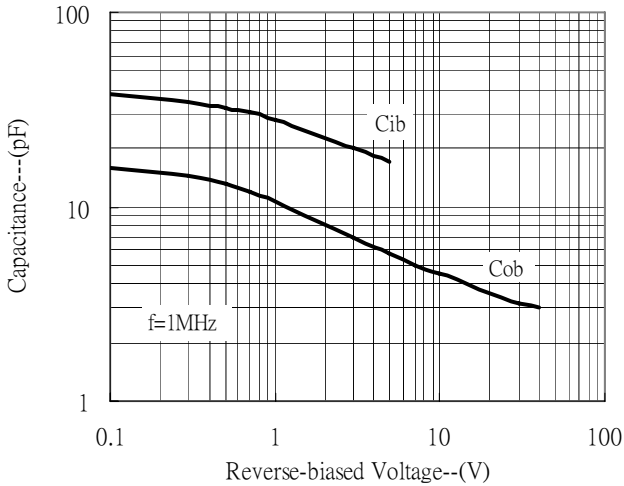
Saturation Voltage vs Collector Current



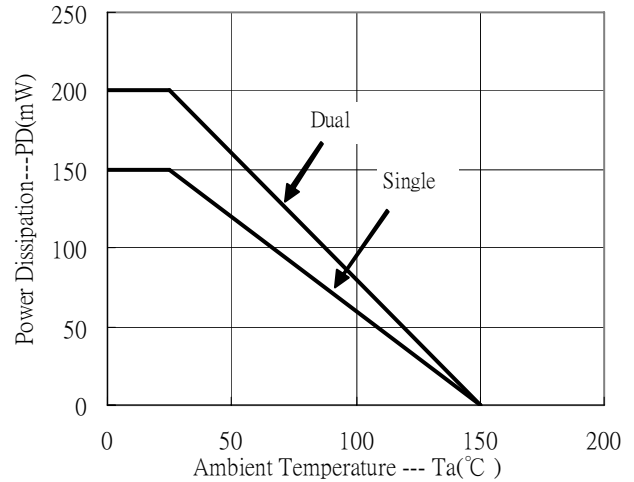
Cutoff Frequency vs Collector Current



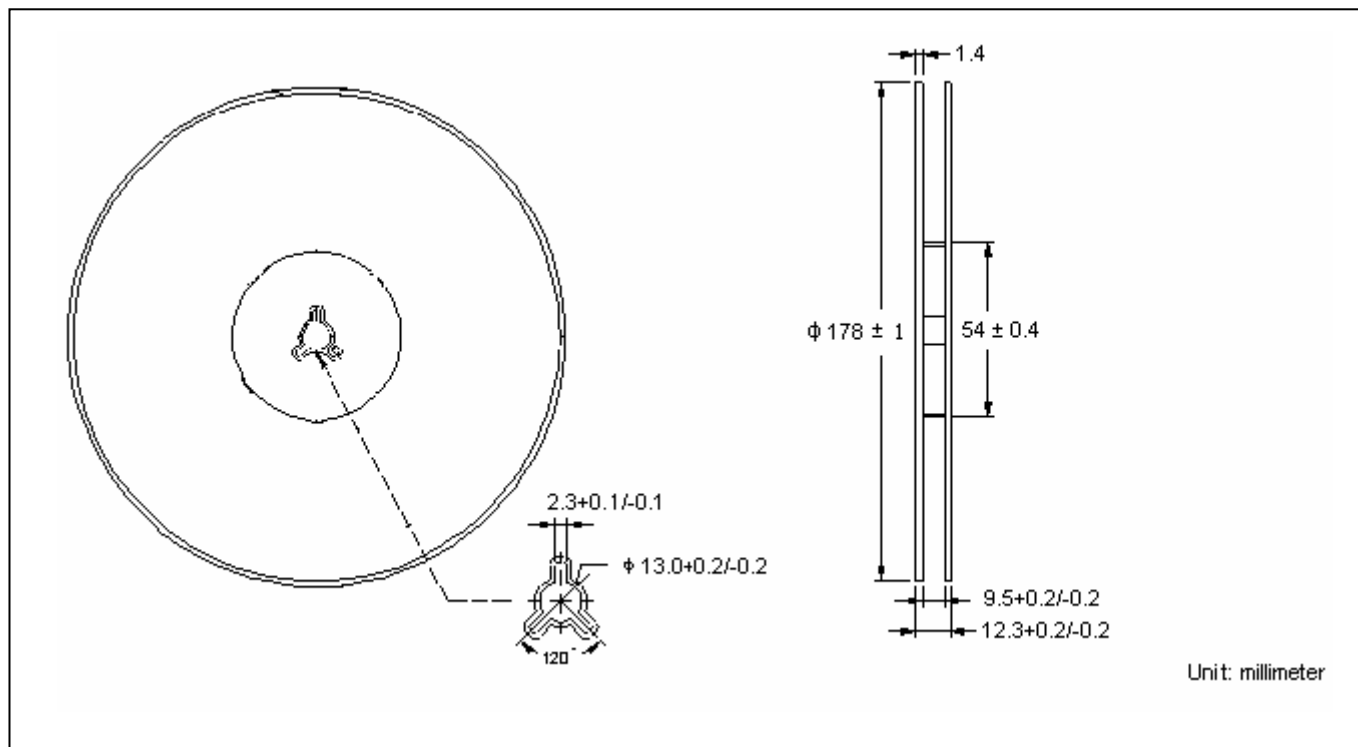
Capacitances vs Reverse-biased Voltage



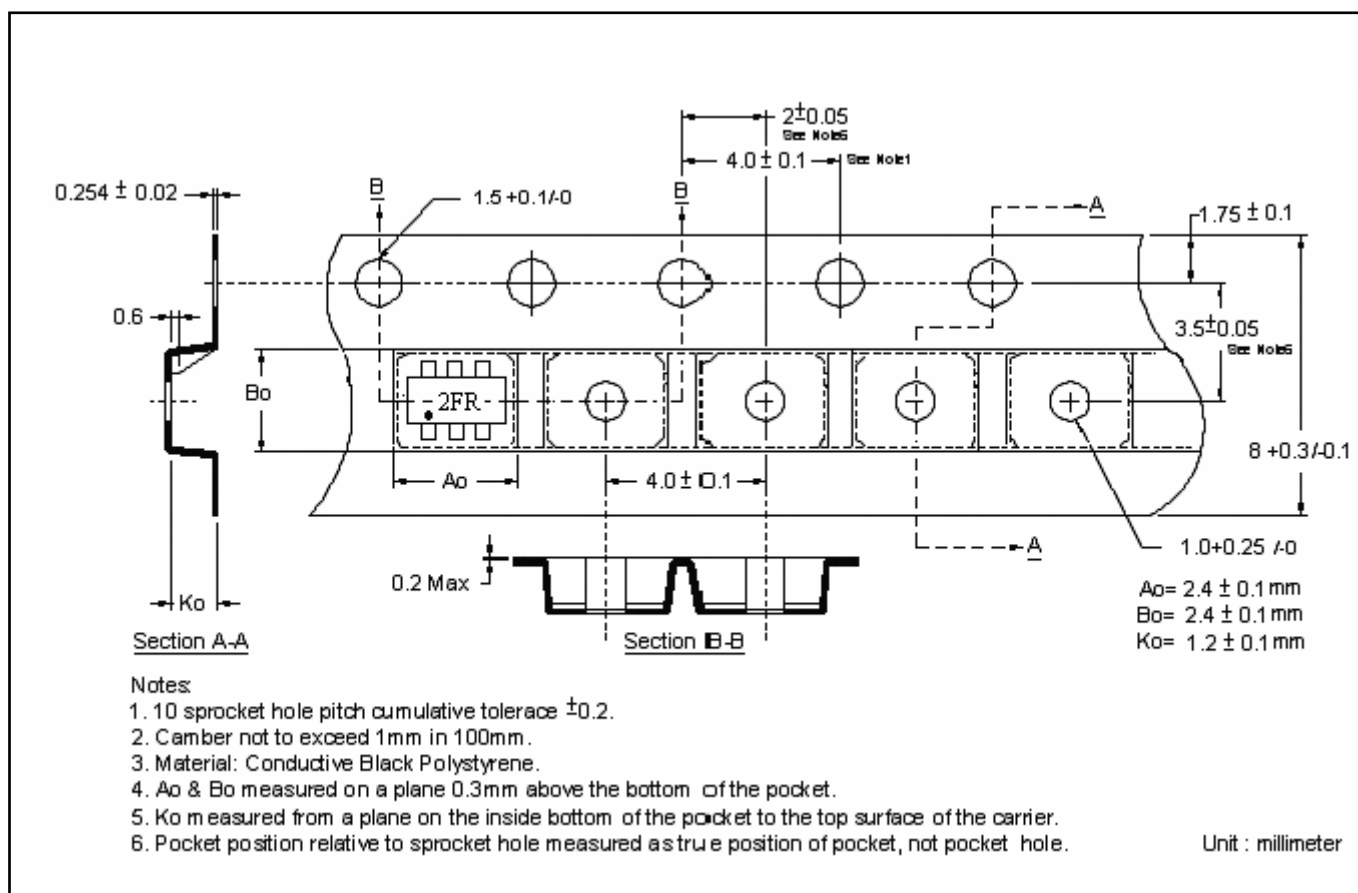
Power Derating Curves



### Reel Dimension

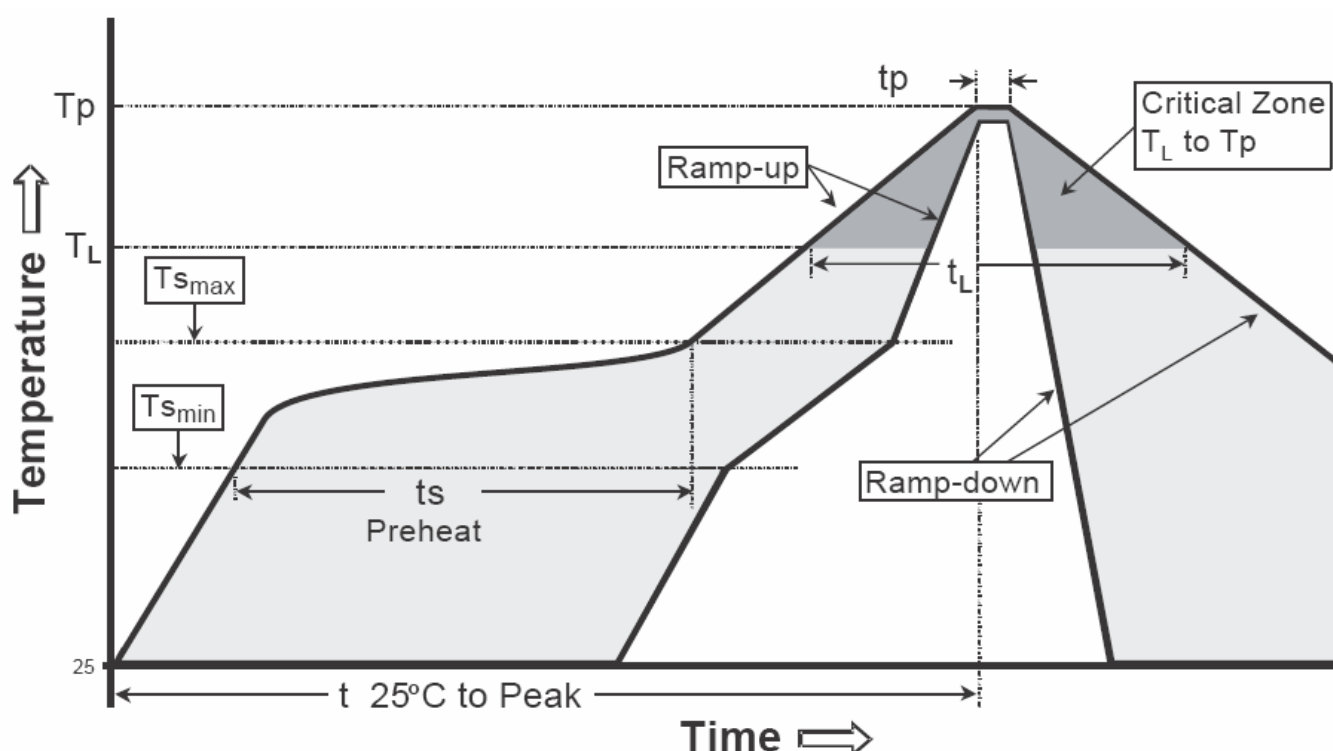


### Carrier Tape Dimension



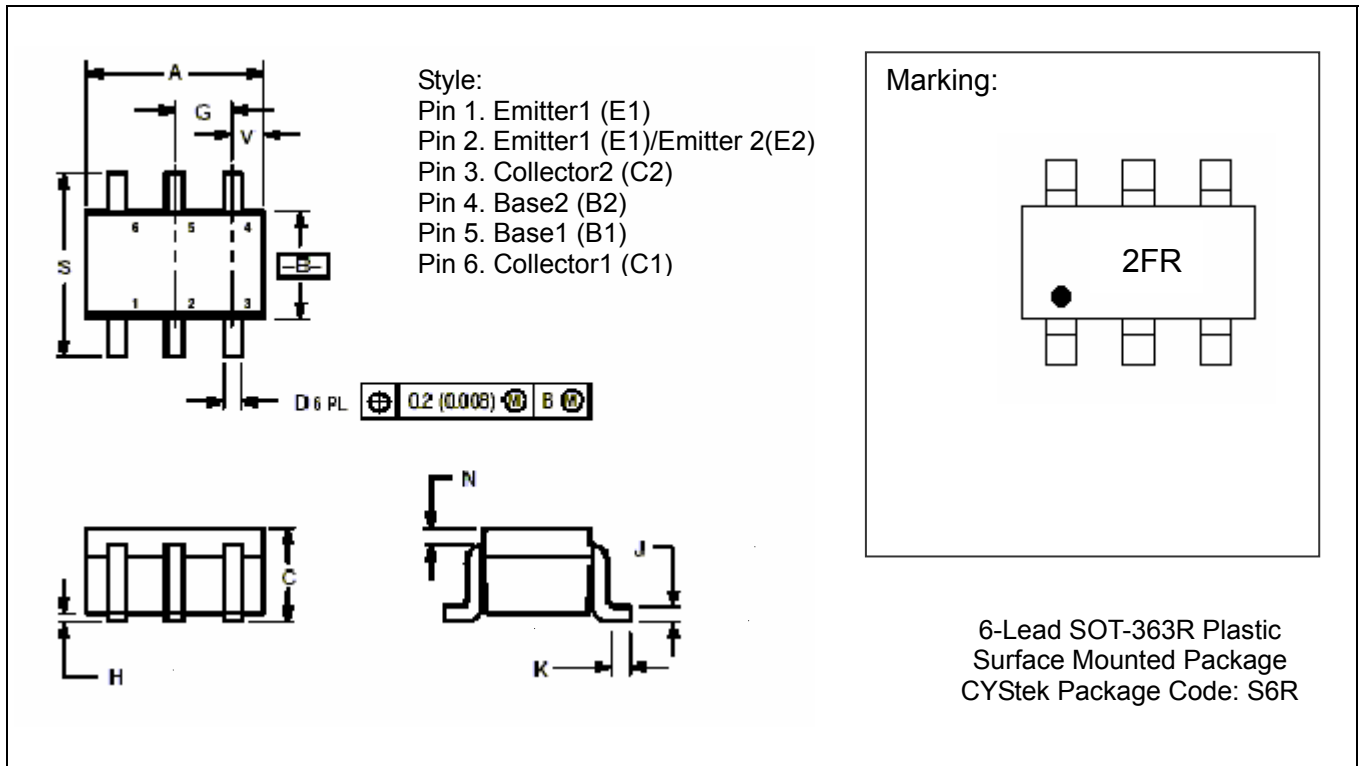
**Recommended wave soldering condition**

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

**Recommended temperature profile for IR reflow**


Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (TL)	183°C	217°C
- Time (tL)	60-150 seconds	60-150 seconds
Peak Temperature(TP)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

**SOT-363R Dimension**



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

Marking:  
 2FR

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 : Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0.

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