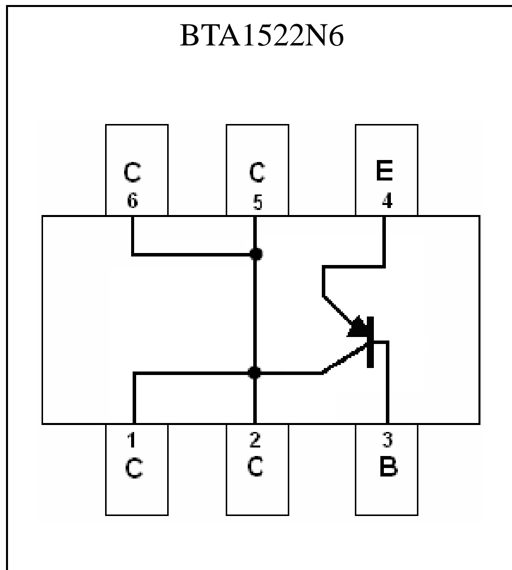
Low Vcesat PNP Epitaxial Planar Transistor

BTA1522N6

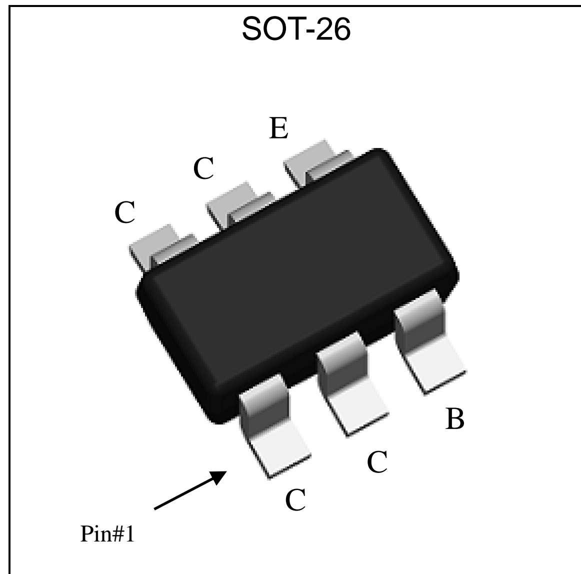
Features

- Low VCE(sat), VCE(sat)=-0.3V (max), at IC / IB =- 1.5A /- 30mA
- Pb-free lead plating and halogen-free package

Equivalent Circuit

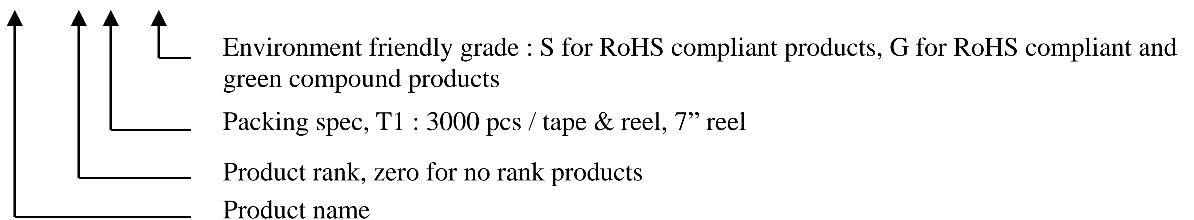


Outline



Ordering Information

Device	Package	Shipping
BTA1522N6-0-T1-G	SOT-26 (Pb-free lead plating and halogen-free package)	3000 pcs / tape & reel



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current(DC)	I_C	-3	A
Peak Collector Current	I_{CM}	-5 *1	A
Peak Base Current	I_{BM}	-600	mA
Power Dissipation	P_D	1.2 *2	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	104	°C/W
Operating Junction and Storage Temperature Range	Tj;Tstg	-55~+150	°C

Note :1 Single pulse, Pw=10ms

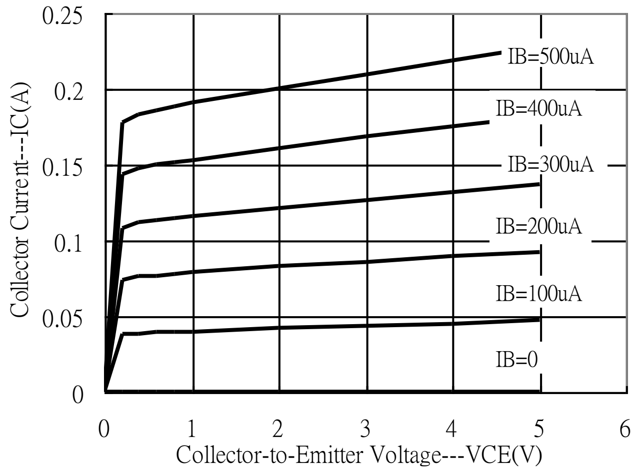
2. When mounted on 25mm×25mm×1.6 mm FR-4 PCB with high coverage of single sided 1 oz copper, in still air condition.

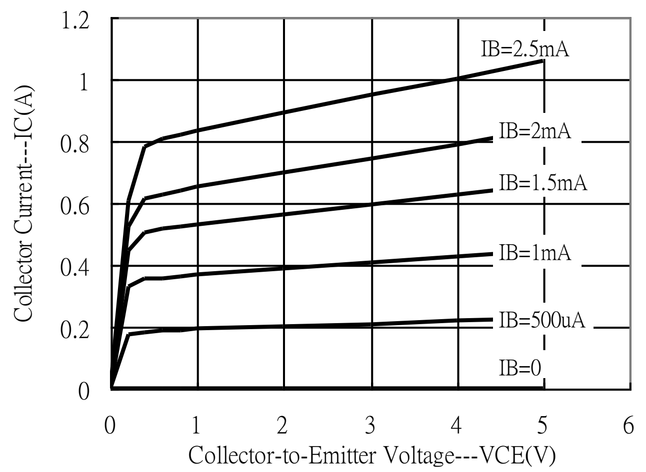
Characteristics (Ta=25°C)

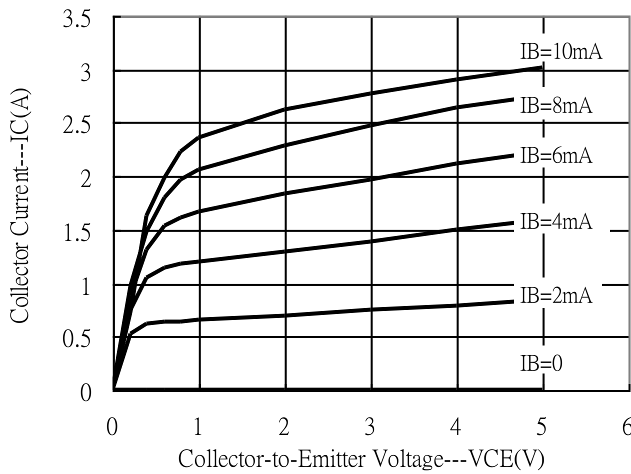
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-30	-	-	V	I_C=-10μA, I_E=0
BV_{CEO}	-20	-	-	V	I_C=-1mA, I_B=0
BV_{EBO}	-5	-	-	V	I_E=-10μA, I_C=0
I_{CBO}	-	-	-100	nA	V_{CB}=-30V, I_E=0
I_{EBO}	-	-	-100	nA	V_{EB}=-4V, I_C=0
*$V_{CE(sat)}$1	-	-	-300	mV	I_C=-1.5A, I_B=-30mA
*$V_{CE(sat)}$1	-	-	-250	mV	I_C=-1.5A, I_B=-75mA
*$V_{BE(sat)}$	-	-	-1.2	V	I_C=-1.5A, I_B=-30mA
*h_{FE}	250	-	560	-	V_{CE}=-2V, I_C=-500mA
f_T	-	380	-	MHz	V_{CE}=-10V, I_C=-500mA
Cob	-	25	-	pF	V_{CB}=-10V, I_E=0A, f=1MHz
ton	-	50	-	ns	V_{CC}=-12V, R_L=24Ω, I_C=20I_B1=-20I_B2=-500mA
tstg	-	270	-	ns	
tf	-	25	-	ns	

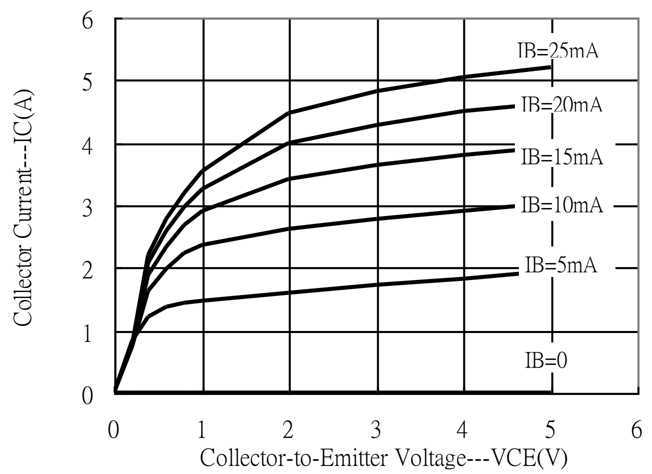
*Pulse Test : Pulse Width ≤380μs, Duty Cycle≤2%

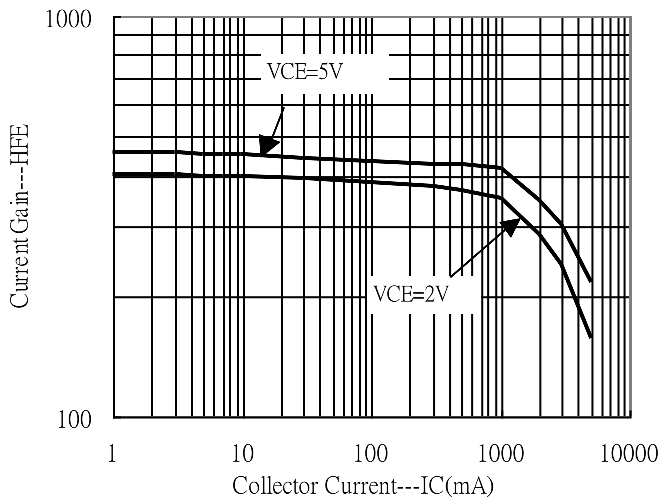
Typical Characteristics

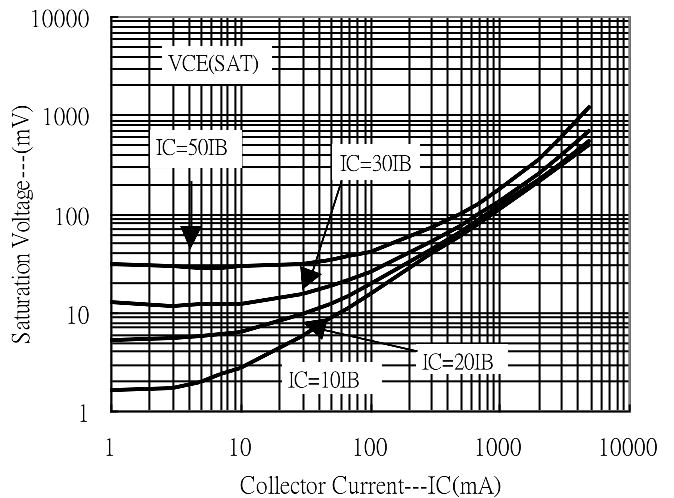




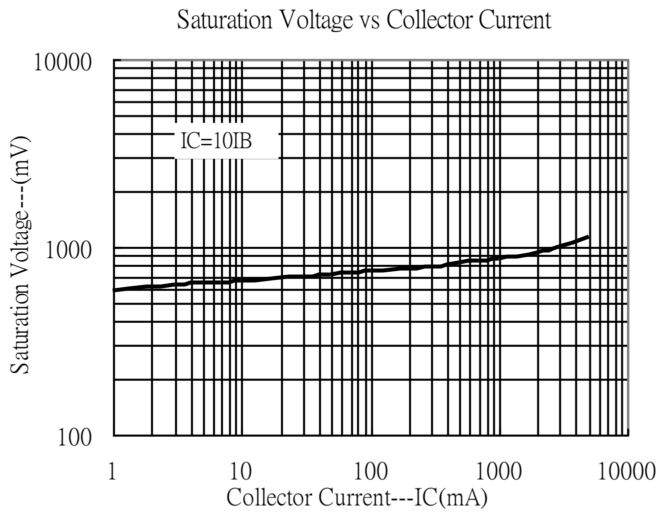


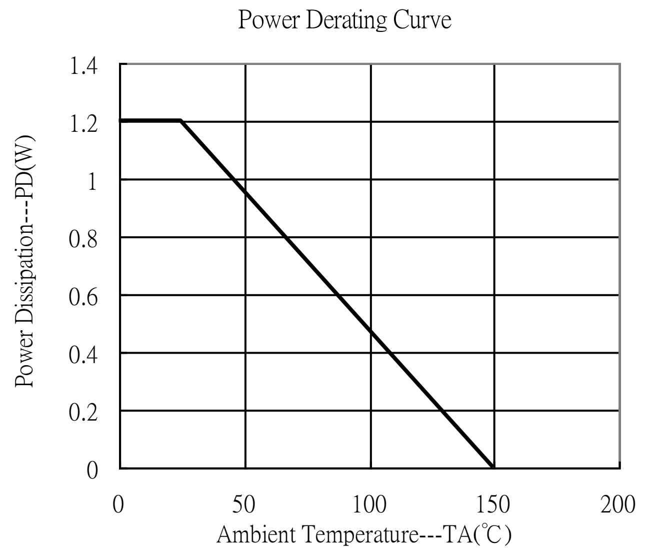






Typical Characteristics(Cont.)





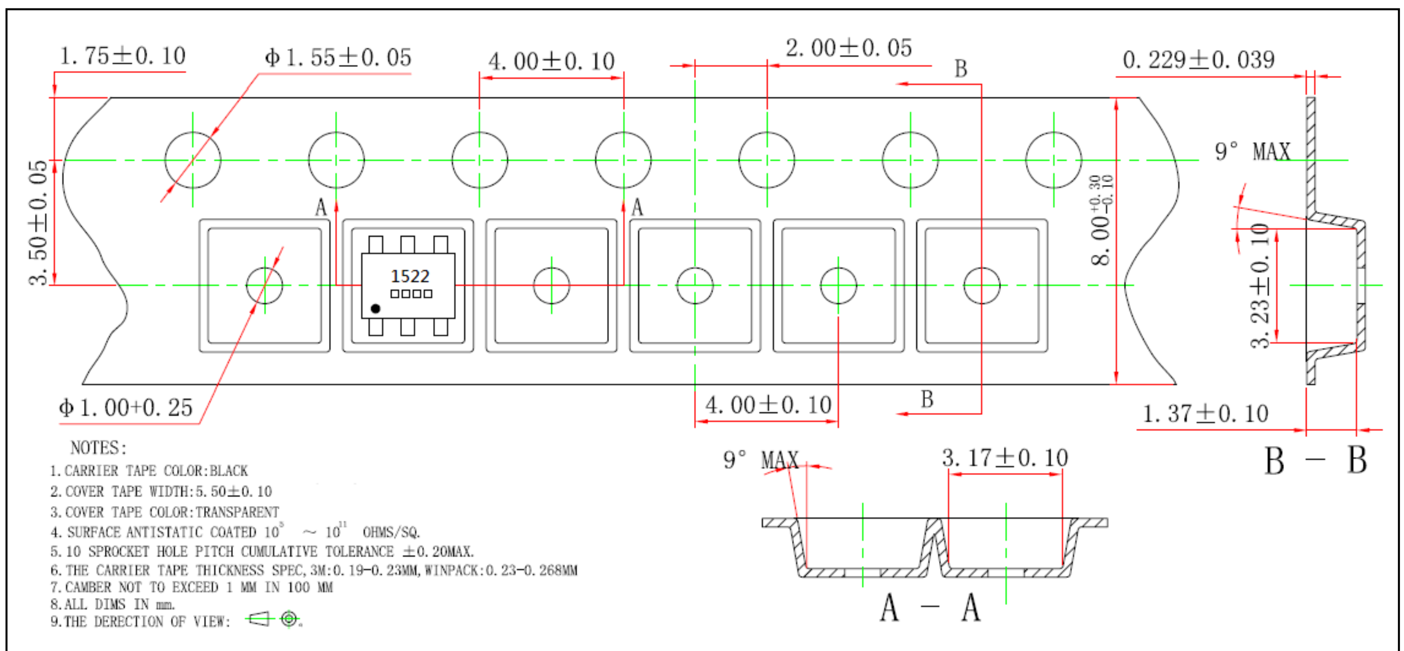
Reel Dimension

A=9.0±0.05
Ao=12.0±0.05
B=1.5±0.3
ΦC=60 +1/-0

UNLESS OTHERWISE SPECIFIED
.X ±0.3 .XXX ±0.02
.XX ±0.10 .XXXX ±0.005
ANGLE SPECIFIED
.X° ±0.5°
ALL DIEMNSIONS IN MILLIMETER

NOTE : 1.Material : Anti-static polystyrene.
2.Surface resistity : 10^9ohm/square

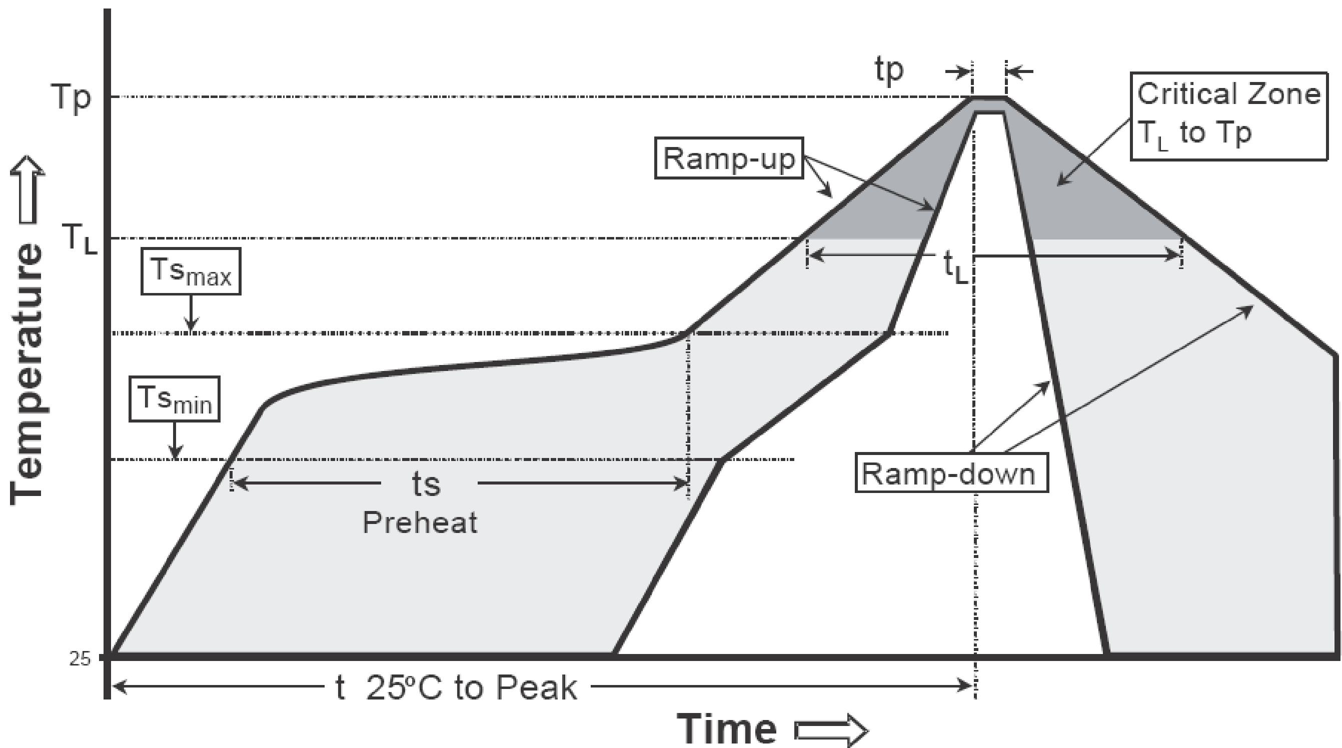
Carrier Tape Dimension



Recommended wave soldering condition

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

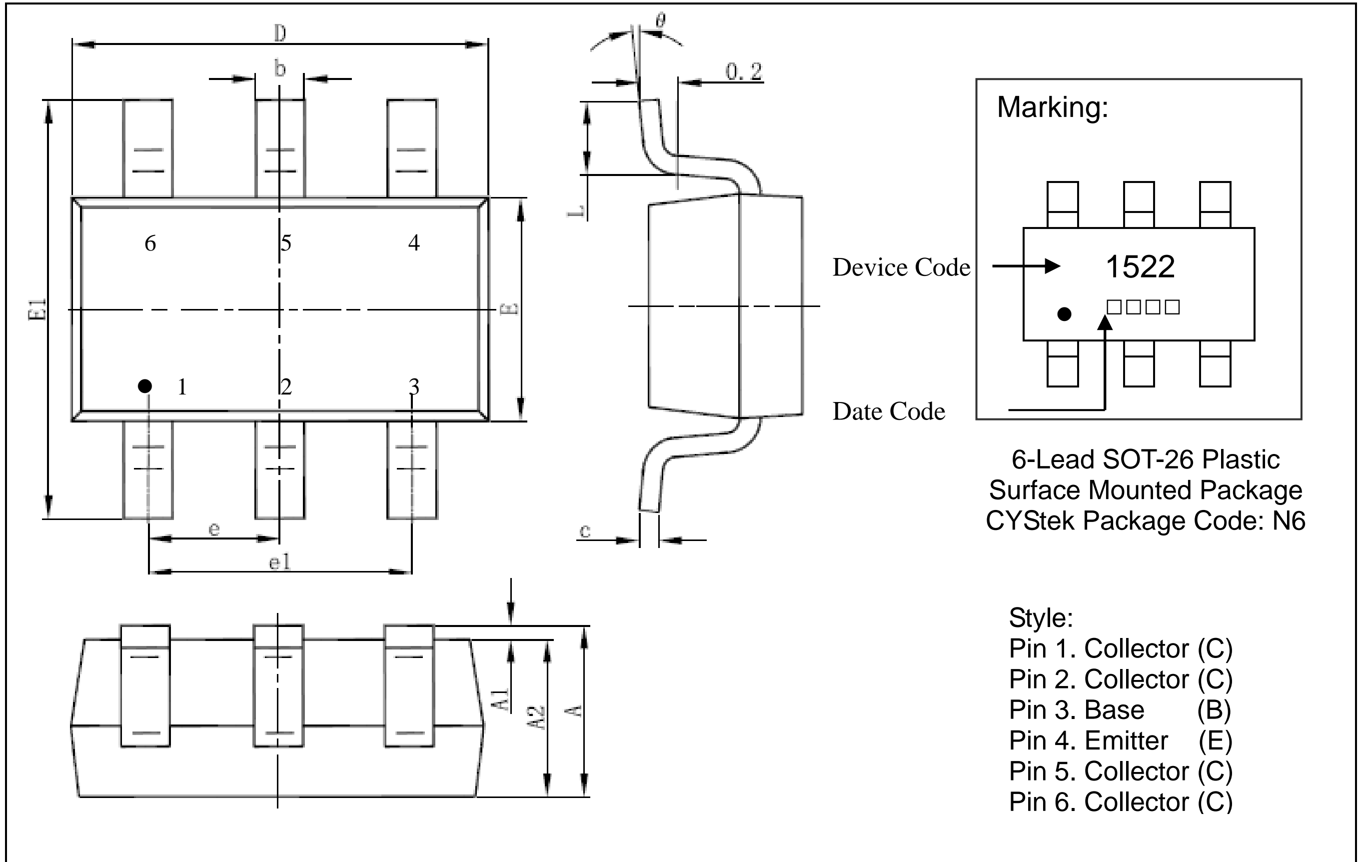
Recommended temperature profile for IR reflow



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) −Temperature Max(Ts max) −Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: −Temperature (TL) − Time (tL)	183°C 60-150 seconds	217°C 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.

Note : All temperatures refer to topside of the package, measured on the package body surface.

SOT-26 Dimension



6-Lead SOT-26 Plastic
Surface Mounted Package
CYStek Package Code: N6

Style:
Pin 1. Collector (C)
Pin 2. Collector (C)
Pin 3. Base (B)
Pin 4. Emitter (E)
Pin 5. Collector (C)
Pin 6. Collector (C)

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049	E	1.500	1.700	0.059	0.067
A1	0.000	0.100	0.000	0.004	E1	2.650	2.950	0.104	0.116
A2	1.050	1.150	0.041	0.045	e	0.950 (BSC)		0.037 (BSC)	
b	0.300	0.500	0.012	0.020	e1	1.800	2.000	0.071	0.079
c	0.100	0.200	0.004	0.008	L	0.300	0.600	0.012	0.024
D	2.820	3.020	0.111	0.119	θ	0°	8°	0°	8°

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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