Low Vcesat PNP Epitaxial Planar Transistor

D45H11J3

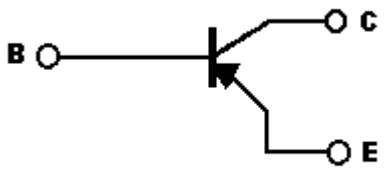
BV_{CEO}	-80V
I_C	-8A
R_{CESAT}	75mΩ

Features

- Low $V_{CE(sat)}$
- High BV_{CEO}
- Excellent current gain characteristics
- RoHS compliant package
- Pb-free lead-free and halogen-free package

Symbol

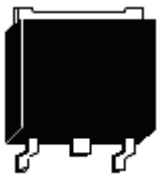
D45H11J3



B：Base
C：Collector
E：Emitter

Outline

TO-252(DPAK)



B C E

Ordering Information

Device	Package	Shipping
D45H11J3-0-T3-G	TO-252 (RoHS compliant and halogen-free package)	2500 pcs / Tape & Reel

Environment friendly grade : S for RoHS compliant products, G for RoHS compliant and green compound products

Packing spec, T3:2500 pcs/tape & reel, 13” reel

Product rank, zero for no rank products

Product name

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-80	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current (DC)	I_C	-8	A
Collector Current (Pulse)	I_{CP}	-16 (Note 1)	
Power Dissipation @ T_A=25℃	P_D	1.75 (Note 2)	W
Power Dissipation @ T_C=25℃	P_D	20	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	71.4 (Note 2)	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	6.25	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : 1. Single Pulse , Pw≦380μs,Duty≦2%.
2. When mounted on a PCB with the minimum pad size.

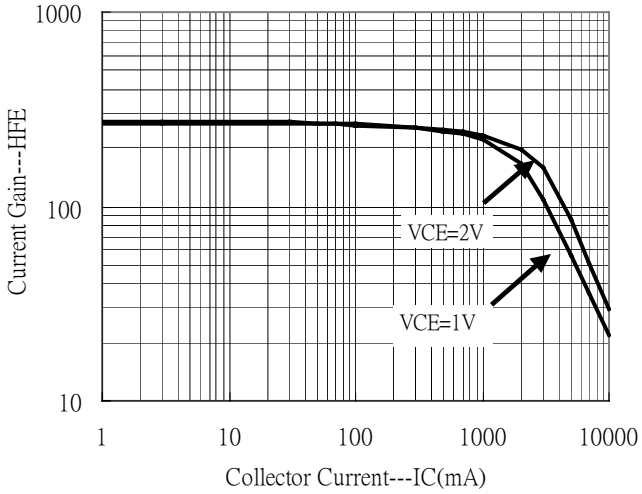
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
$BV_{CEO(SUS)}$	-80	-	-	V	I_C=-30mA, I_B=0
I_{CEO}	-	-	-10	μA	V_{CE}=-80V, I_B=0
I_{CES}	-	-	-10	μA	V_{CE}=-80V, V_{BE}=0
I_{EBO}	-	-	-50	μA	V_{EB}=-5V, I_C=0
*$V_{CE(sat)}$	-	-0.6	-1.0	V	I_C=-8A, I_B=-0.4A
*$V_{BE(sat)}$	-	-1.0	-1.5	V	I_C=-8A, I_B=-0.8A
*h_{FE}	60	-	-	-	V_{CE}=-1V, I_C=-2A
*h_{FE}	40	-	-	-	V_{CE}=-1V, I_C=-4A
f_T	-	40	-	MHz	V_{CE}=-10V, I_C=-500mA, f=20MHz
Cob	-	230	-	pF	V_{CB}=-10V, f=1MHz
ton	-	135	-	ns	I_C=-5A, I_B1=-I_B2=-0.5A
tstg	-	500	-	ns	
tf	-	100	-	ns	

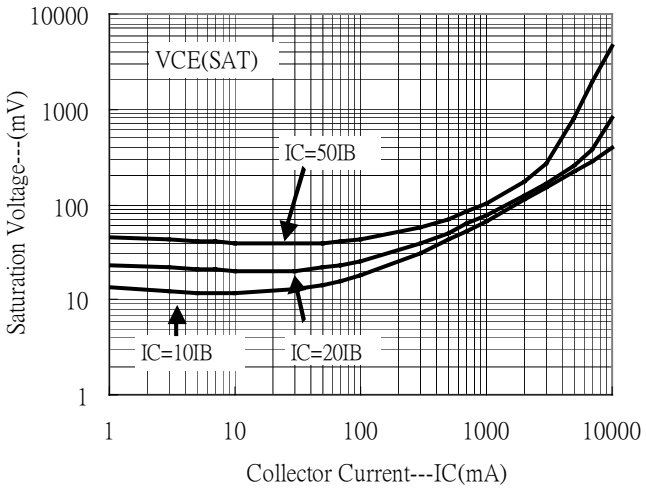
*Pulse Test : Pulse Width ≤380μs, Duty Cycle≤2%

Typical Characteristics

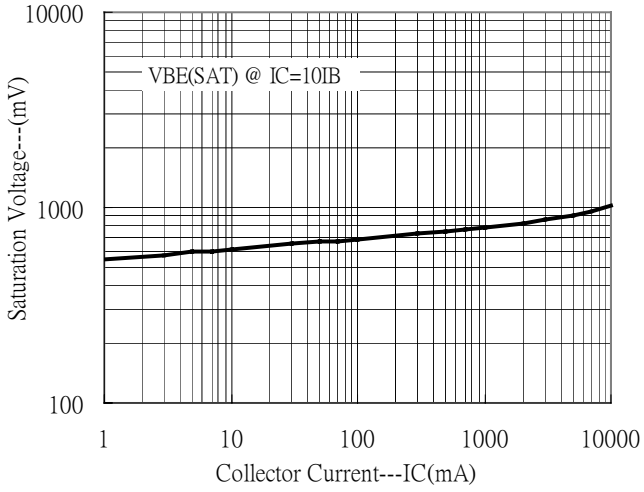
Current Gain vs Collector Current



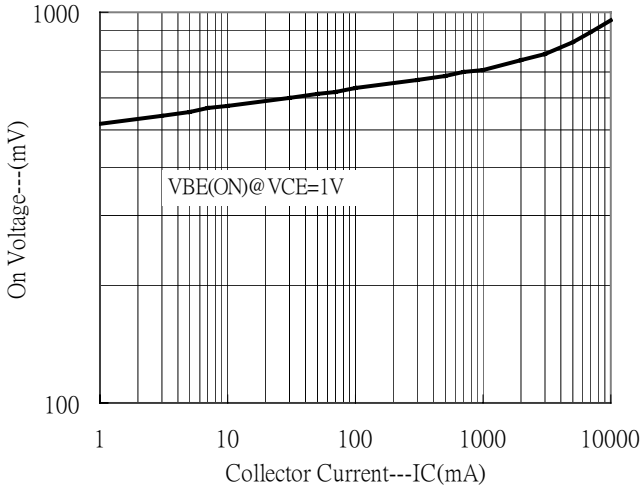
Saturation Voltage vs Collector Current



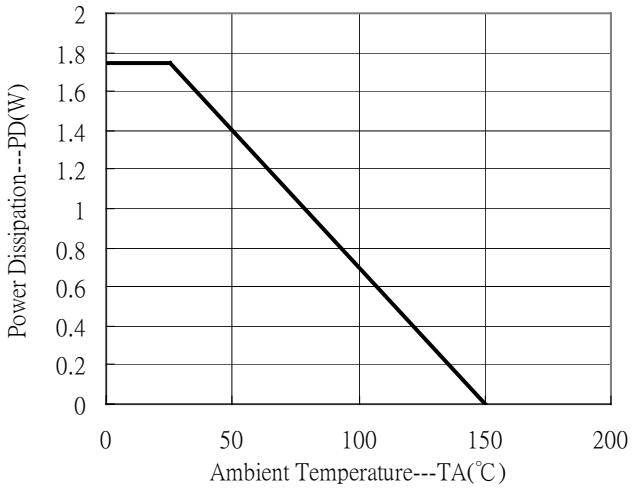
Saturation Voltage vs Collector Current



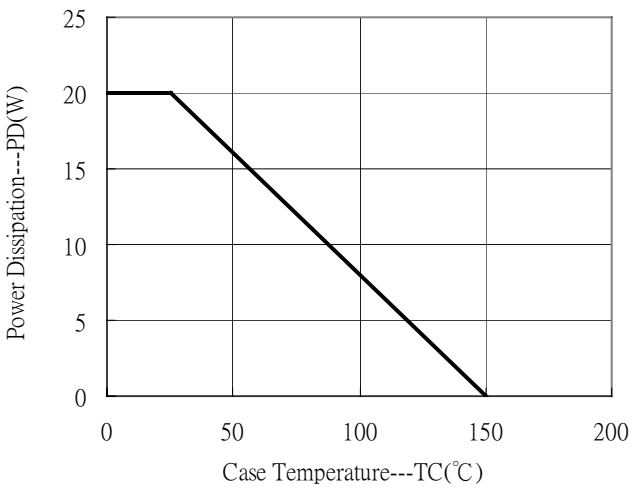
On Vottage vs Collector Current



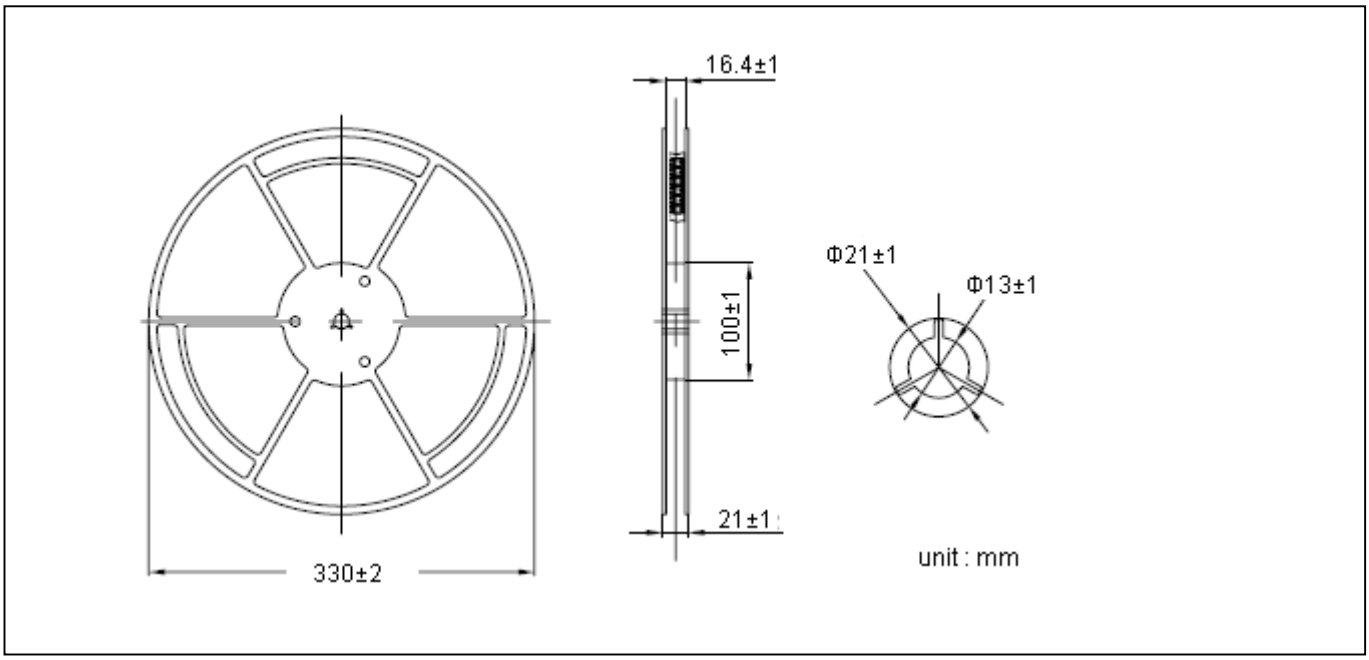
Power Derating Curve



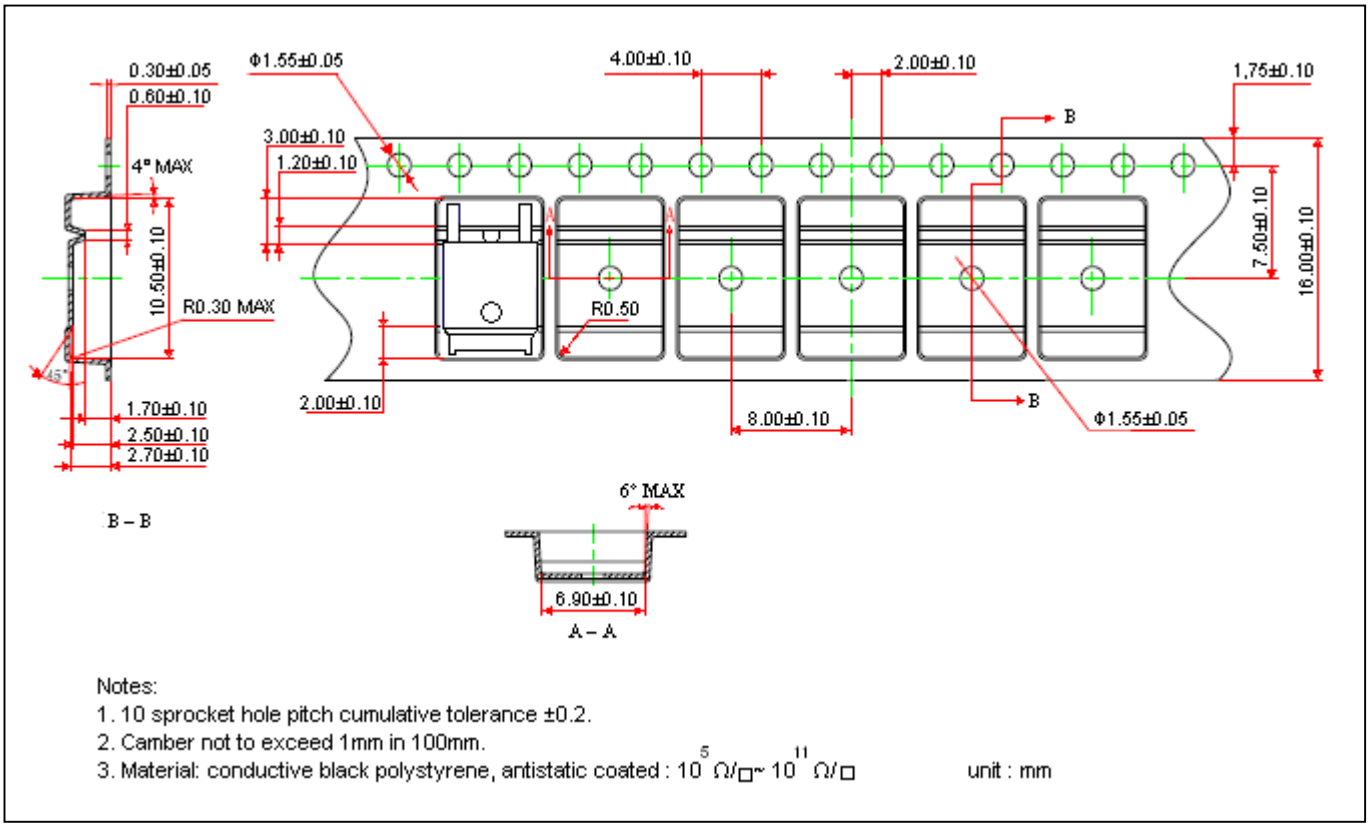
Power Derating Curve



Reel Dimension



Carrier Tape Dimension

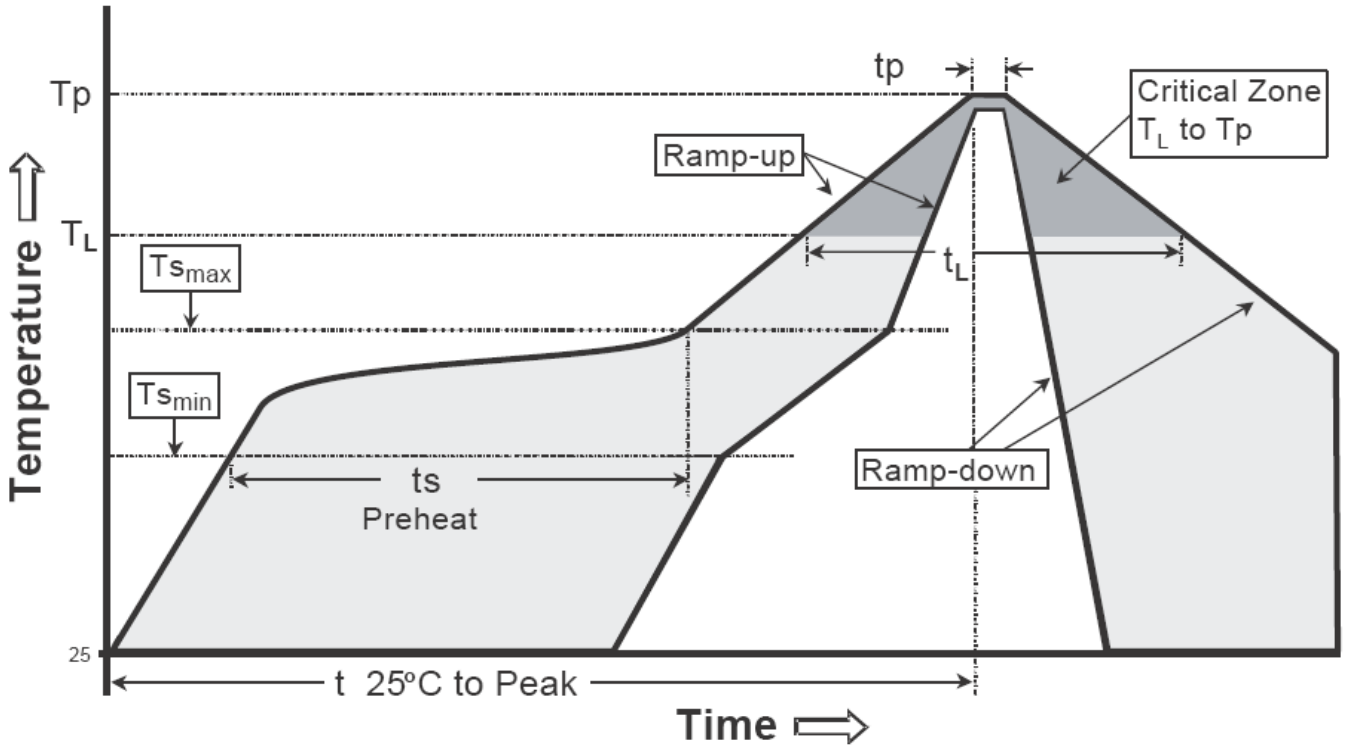


Notes:
1. 10 sprocket hole pitch cumulative tolerance ±0.2.
2. Camber not to exceed 1mm in 100mm.
3. Material: conductive black polystyrene, antistatic coated : 10^{5} Ω/□~ 10^{11} Ω/□ unit : mm

Recommended wave soldering condition

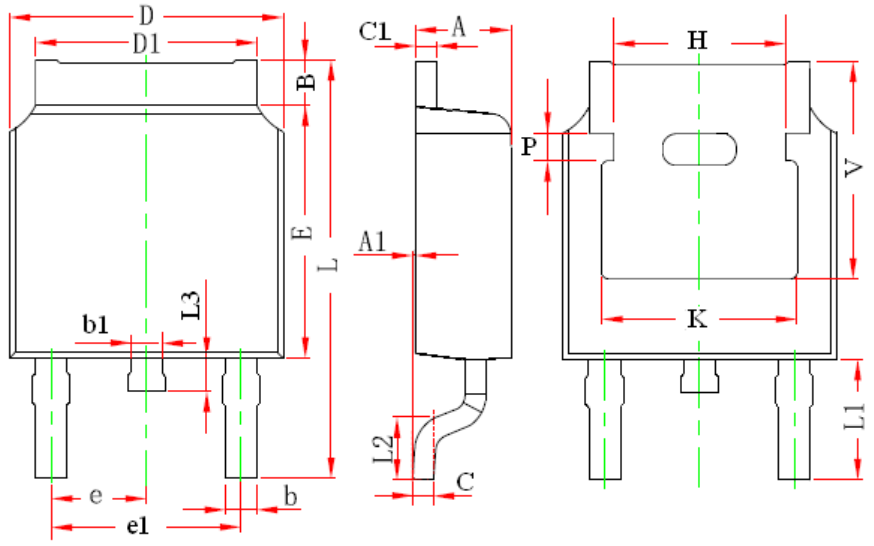
Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

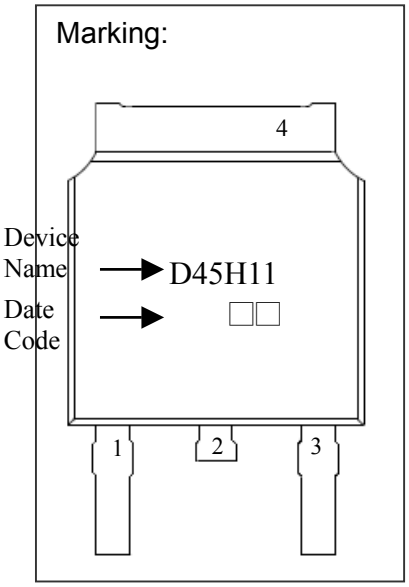
Recommended temperature profile for IR reflow



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.

TO-252 Dimension





3-Lead TO-252 Plastic Surface Mount Package
CYStek Package Code: J3

Style: Pin 1.Base 2.Collector 3.Emitter 4.Collector

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.087	0.094	2.200	2.400	e	0.086	0.094	2.186	2.386
A1	0.000	0.005	0.000	0.127	e1	0.172	0.188	4.372	4.772
B	0.039	0.048	0.990	1.210	H	0.163	REF	4.140	REF
b	0.026	0.034	0.660	0.860	K	0.190	REF	4.830	REF
b1	0.026	0.034	0.660	0.860	L	0.386	0.409	9.800	10.400
C	0.018	0.023	0.460	0.580	L1	0.114	REF	2.900	REF
C1	0.018	0.023	0.460	0.580	L2	0.055	0.067	1.400	1.700
D	0.256	0.264	6.500	6.700	L3	0.024	0.039	0.600	1.000
D1	0.201	0.215	5.100	5.460	P	0.026	REF	0.650	REF
E	0.236	0.244	6.000	6.200	V	0.211	REF	5.350	REF

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.