Low VCE(sat) PNP Epitaxial Planar Transistor

Features :

- Excellent DC current gain characteristics
- Low Saturation Voltage
  V_{CE}(sat)=-0.24V(typ) (I_C=-2A, I_B=-100mA).
- Complementary to BTD2150L3
- Pb-free lead plating and halogen-free package

BV_{CEO}	-50V
I_C	-3A
$R_{CESAT(typ)}$	0.12Ω

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current(DC)	I_C	-3	A
Collector Current(Pulsed) (Note 1)	I_{CP}	-5 (Note)	
Power Dissipation @ T_C=25°C	Pd	5	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : Single pulse, Pw≤10ms, Duty Cycle≤30%.

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-50	-	-	V	I_C=-50μA
BV_{CEO}	-50	-	-	V	I_C=-1mA
BV_{EBO}	-6	-	-	V	I_E=-50μA
I_{CBO}	-	-	-0.1	μA	V_{CB}=-40V
I_{EBO}	-	-	-0.1	μA	V_{EB}=-5V
*$V_{CE(sat)}$	-	-0.24	-0.5	V	I_C=-2A, I_B=-100mA
*$R_{CE(sat)}$	-	-0.12	-0.25	Ω	I_C=-2A, I_B=-100mA
*h_{FE}	180	-	560	-	V_{CE}=-2V, I_C=-500mA
f_T	-	240	-	MHz	V_{CE}=-2V, I_C=-500mA, f=100MHz
Cob	-	25	-	pF	V_{CB}=-10V, I_E=0A, f=1MHz

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

Classification Of h_{FE}

Rank	R	S
H_{FE} range	180~390	270~560

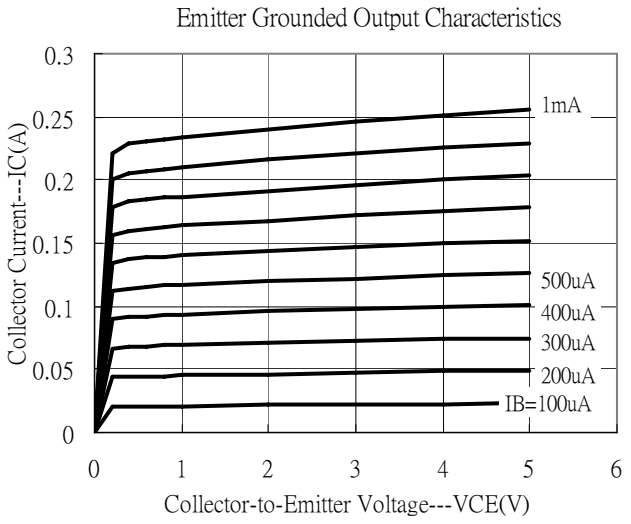
Thermal Data

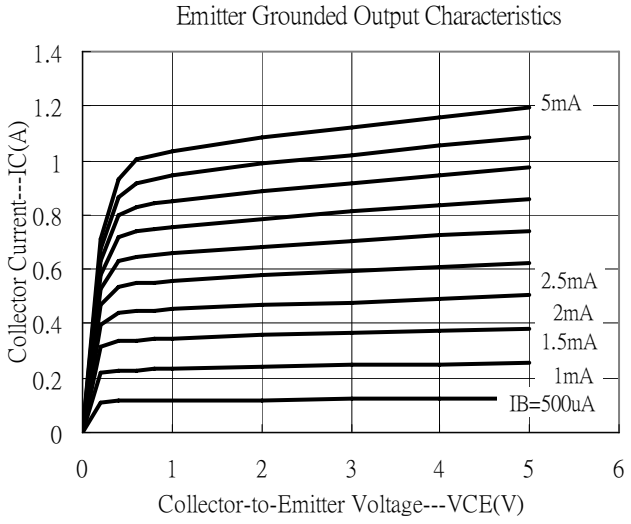
Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to- ambient, max	$R_{th,j-a}$	125	°C/W
Thermal Resistance, Junction-to- case, max	$R_{th,j-c}$	25	°C/W

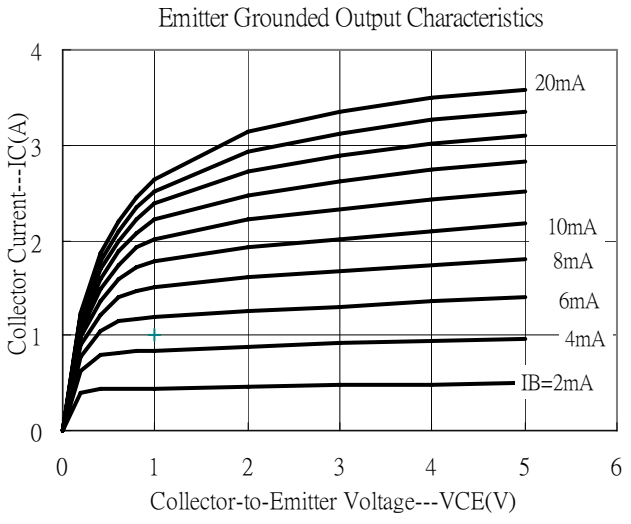
Ordering Information

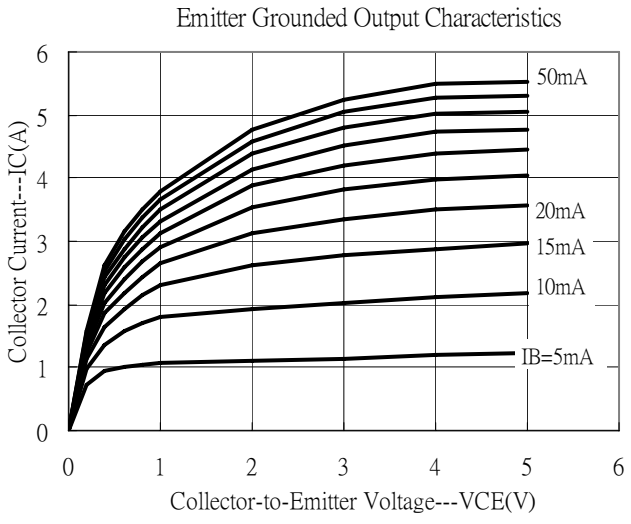
Device	Package	Shipping	Marking
KLB1424	SOT-223 (Pb-free lead plating and halogen-free package)	2500 pcs / Tape & Box	B1424

Characteristic Curves



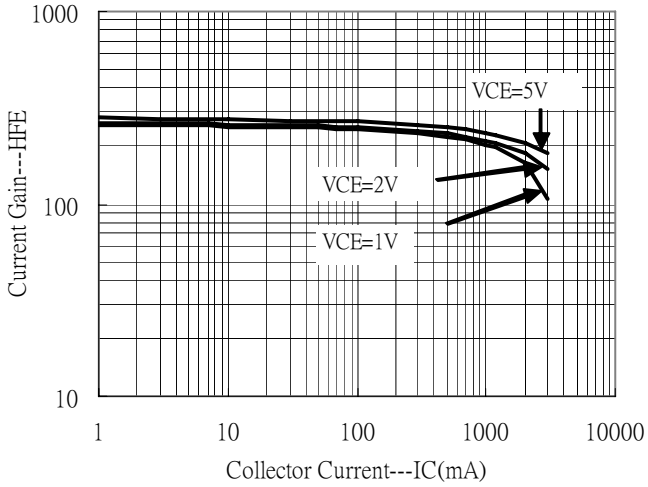




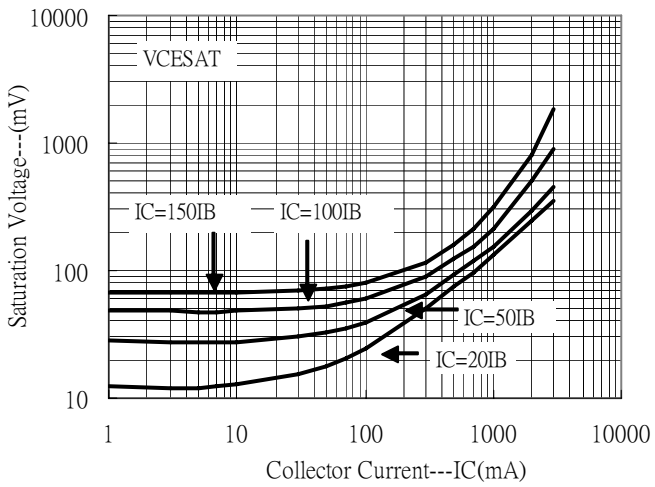


Characteristic Curves(Cont.)

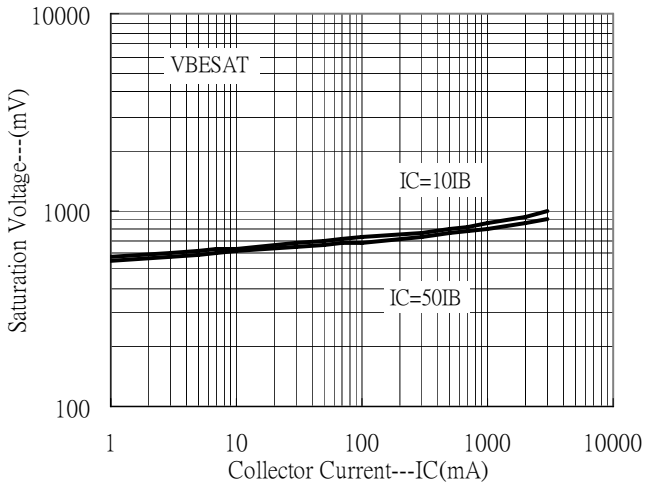
Current Gain vs Collector Current



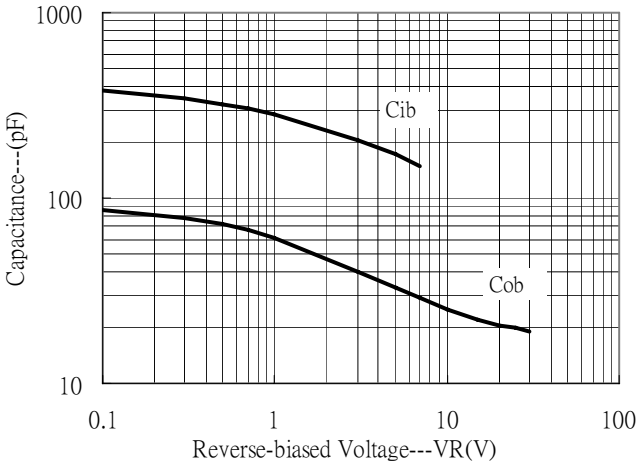
Saturation Voltage vs Collector Current



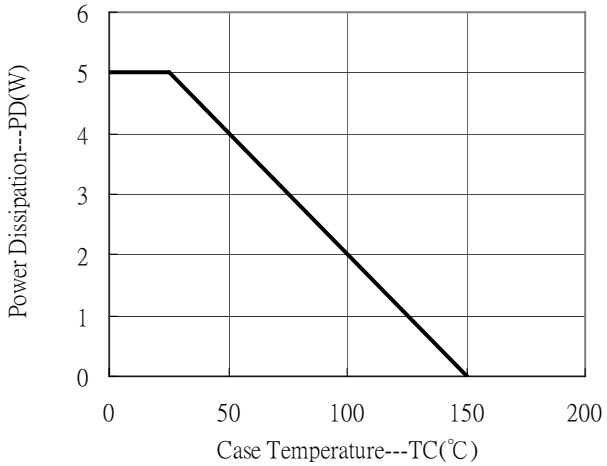
Saturation Voltage vs Collector Current



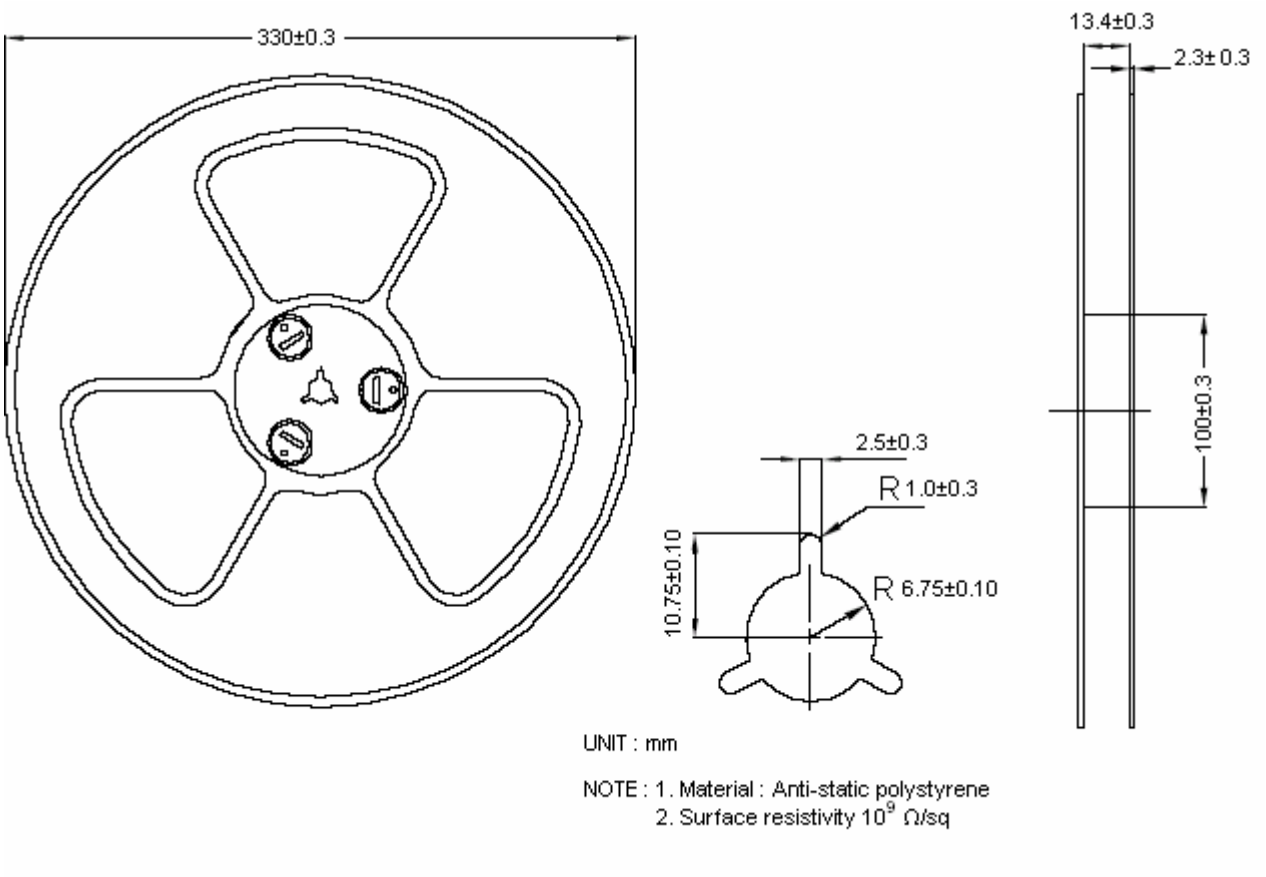
Capacitance vs Reverse-biased Voltage



Power Derating Curve



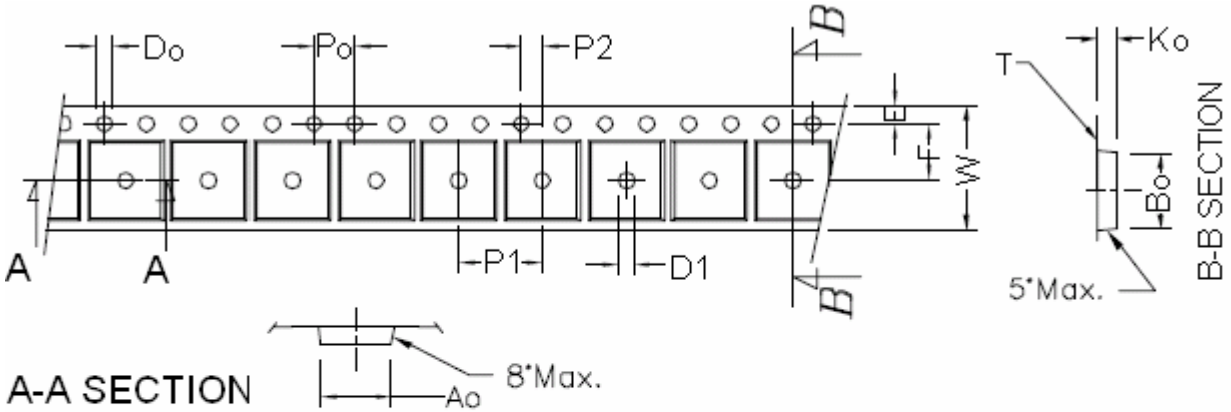
Reel Dimension



UNIT : mm

NOTE : 1. Material : Anti-static polystyrene
2. Surface resistivity 10^9 Ω/sq

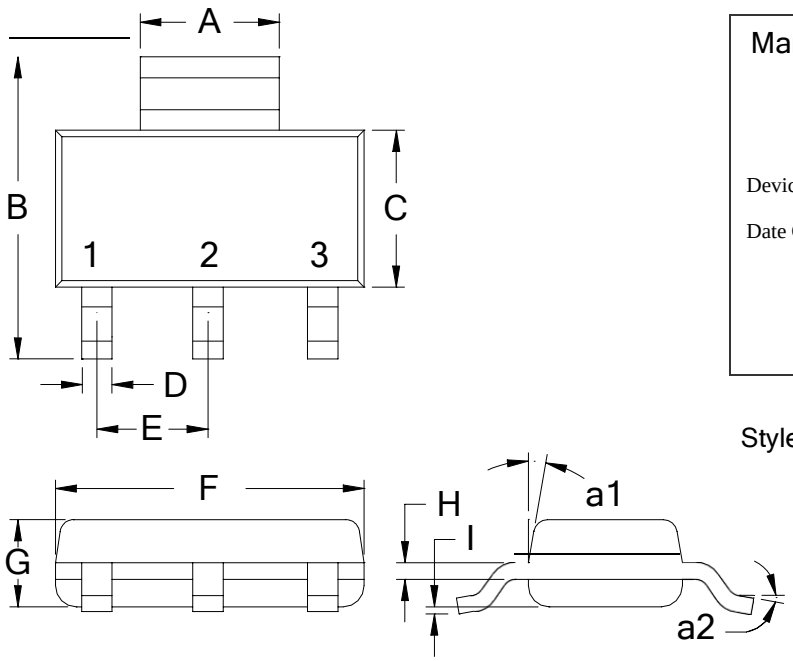
Carrier Tape Dimension

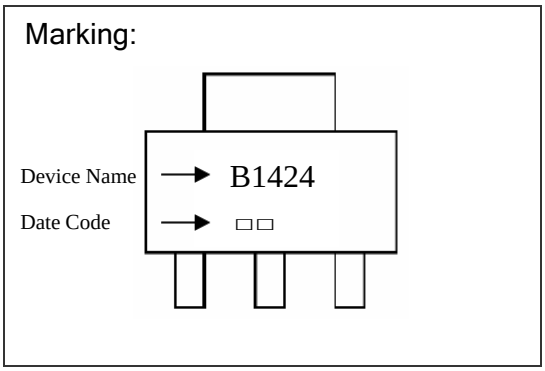


Symbol	Ao	Bo	Ko	Po	P1	P2	T
Spec	6.83±0.1	7.42±0.1	1.88±0.1	4.0±0.1	8.0±0.10	2.0±0.05	0.292±0.02
Symbol	E	F	Do	D1	W	10Po	
Spec	1.75±0.1	5.5±0.05	1.60±0.1	1.5±0.25	$12^{+0.3}_{-0.1}$	40.0±0.2	

Unit : mm

SOT-223 Dimension





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

3-Lead SOT-223 Plastic
Surface Mounted Package

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1142	0.1220	2.90	3.10	G	0.0551	0.0709	1.40	1.80
B	0.2638	0.2874	6.70	7.30	H	0.0098	0.0138	0.25	0.35
C	0.1299	0.1457	3.30	3.70	I	0.0008	0.0039	0.02	0.10
D	0.0236	0.0315	0.60	0.80	a1	*13°	-	*13°	-
E	*0.0906	-	*2.30	-	a2	0°	10°	0°	10°
F	0.2480	0.2638	6.30	6.70					