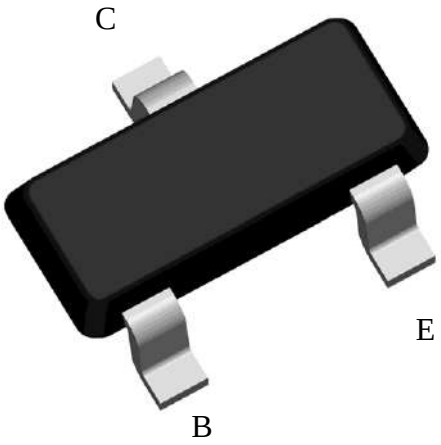
Low VCE(sat) PNP Epitaxial Planar Transistor

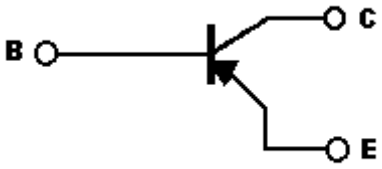
SOT-23



Features:

- Excellent DC current gain characteristics
- Low Saturation Voltage
  $V_{CE(sat)}$=-0.25V(typ)(I_C=-2A, I_B=-100mA).
- Complementary to KWD2150N3
- Pb-free lead plating and halogen-free package

BV_{CEO}	-50V
I_C	-3A
$R_{CESAT(typ.)}$	0.125Ω



B：Base
C：Collector
E：Emitter

Ordering Information

Device	Package	Shipping
KWB1424	SOT-23 (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}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current(DC)	I_C	-3	A
Collector Current(Pulsed)(Note 1)	I_{CP}	-7	
Power Dissipation	P_D	0.225	W
		0.66 (Note 2)	
		0.9 (Note 3)	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
		190 (Note 2)	
		138.9 (Note 3)	
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : 1. Single pulse, Pw≤10ms, Duty Cycle≤30%.

2. Device mounted on an FR-4 PCB, single sided copper, tin plated, mounting pad for collector 1cm².

3. Device mounted on a ceramic board (600mm²x0.8mm)

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}	-5	-	-	V	I_E=-50μA
I_{CBO}	-	-	-1	μA	V_{CB}=-40V
I_{EBO}	-	-	-1	μA	V_{EB}=-5V
*$V_{CE(sat)}$	-	-0.25	-0.5	V	I_C=-2A, I_B=-100mA
*R_{CESAT}	-	0.125	0.25	Ω	I_C=-2A, I_B=-100mA
*h_{FE}	180	-	560	-	V_{CE}=-2V, I_C=-100mA
f_T	-	240	-	MHz	V_{CE}=-2V, I_C=-500mA, f=100MHz
Cob	-	25	-	pF	V_{CB}=-10V, I_E=0A, f=1MHz

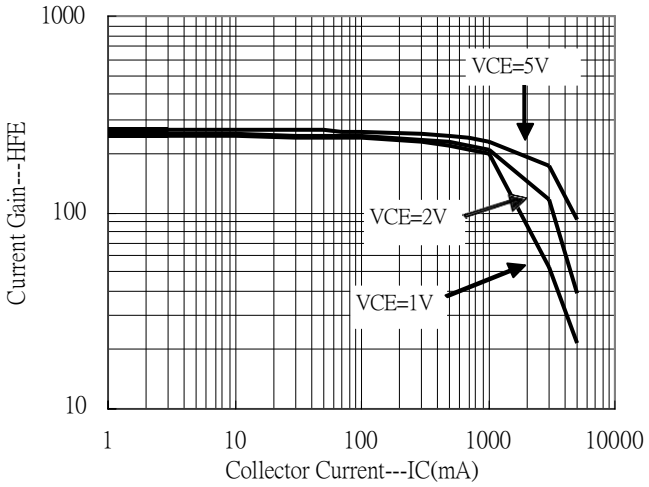
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of h_{FE}

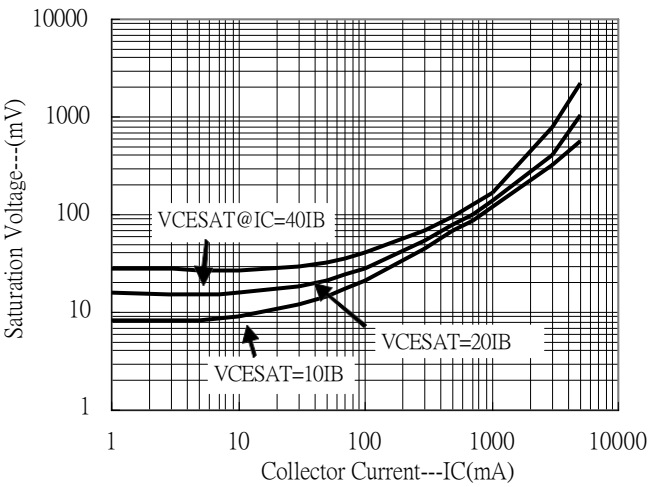
Rank	R	S
Range	180~390	270~560

Typical Characteristics

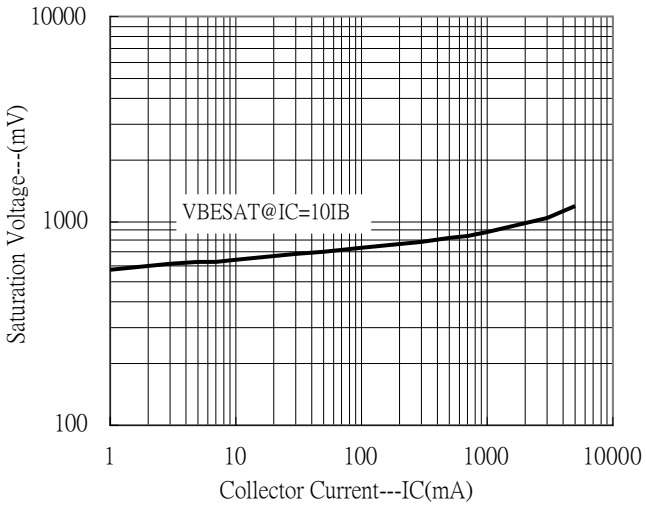
Current Gain vs Collector Current



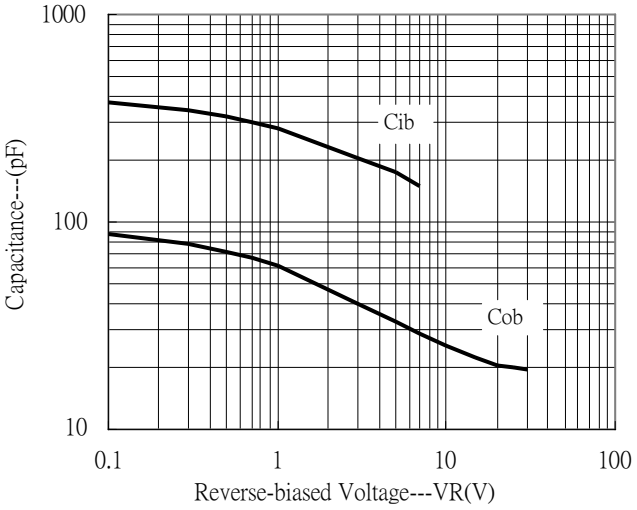
Saturation Voltage vs Collector Current



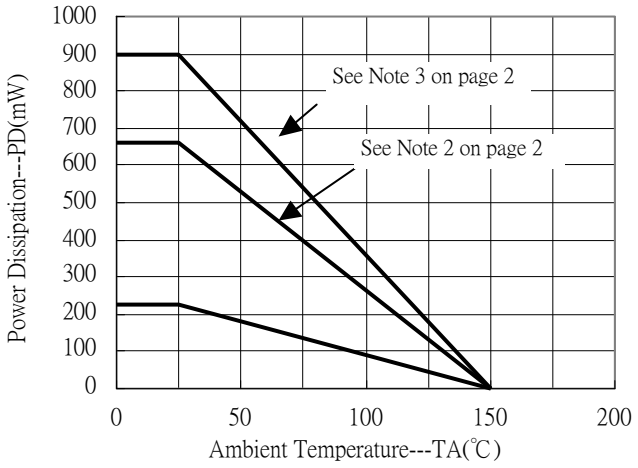
Saturation Voltage vs Collector Current



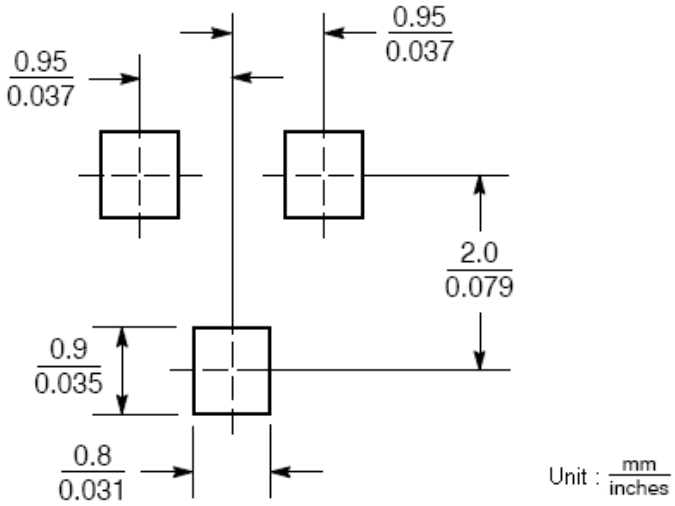
Capacitance vs Reverse-biased Voltage



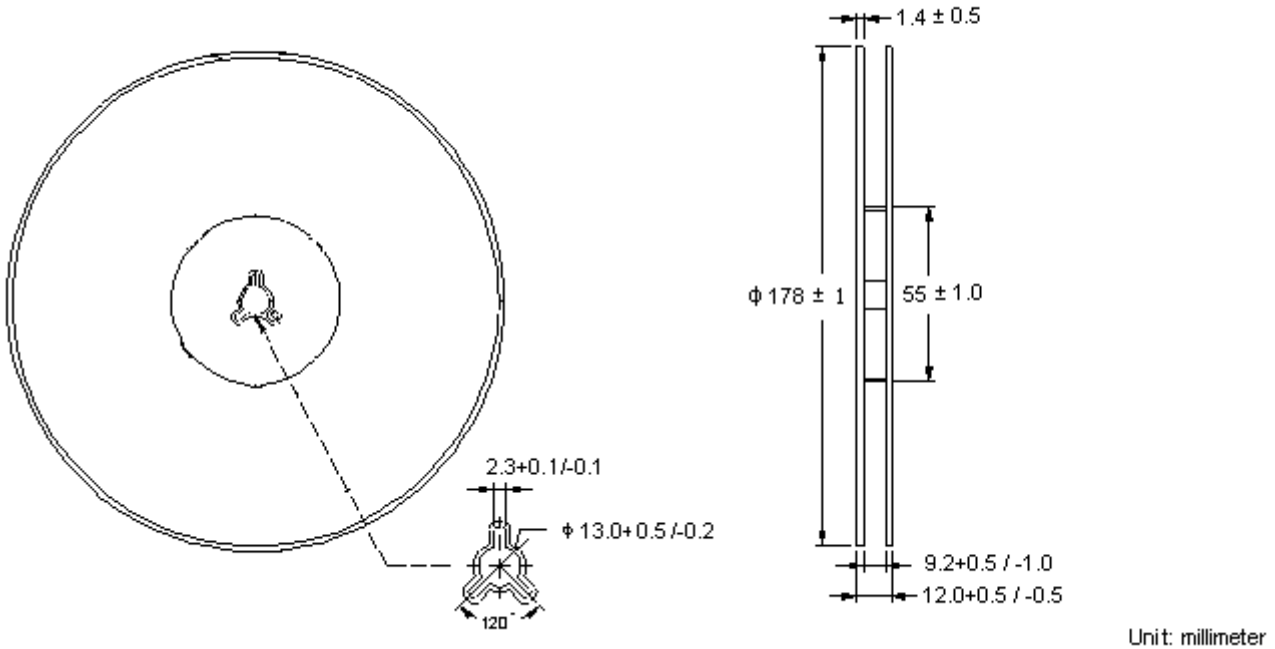
Power Derating Curve



Recommended Soldering Footprint

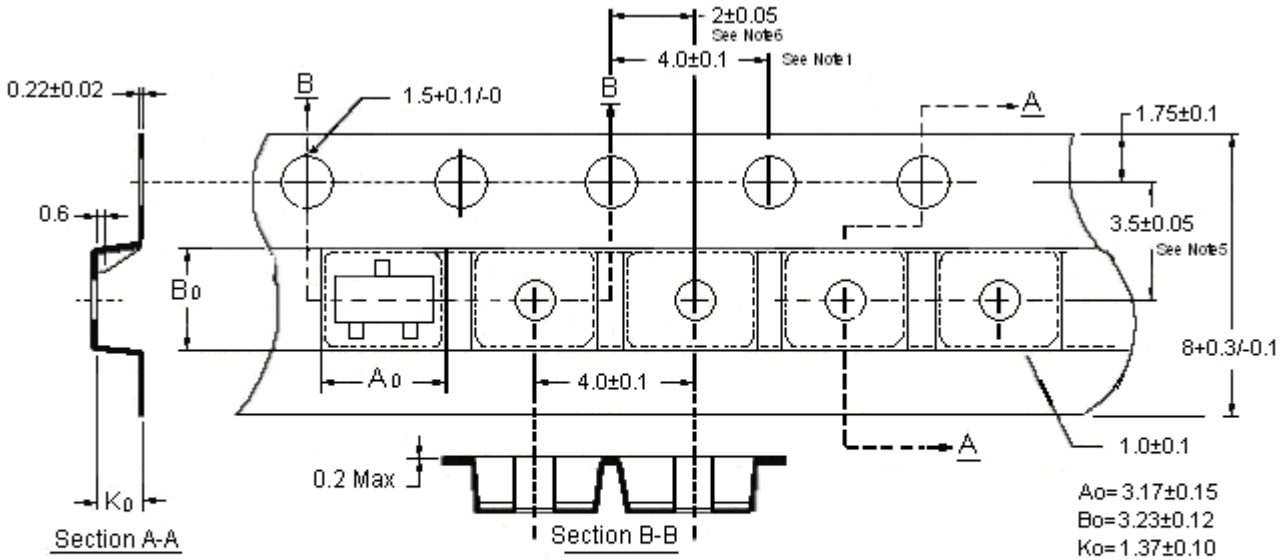


Reel Dimension



Unit: millimeter

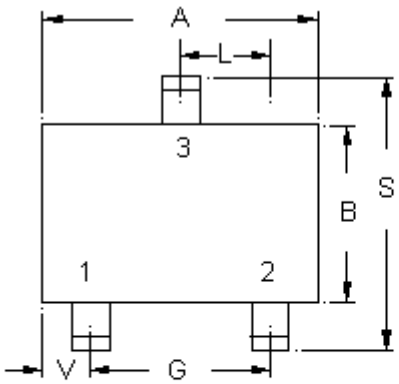
Carrier Tape Dimension



Notes:
1. 10 sprocket hole pitch cumulative tolerance ±0.2.
2. Camber not to exceed 1mm in 100mm.
3. Material : conductive Black Polystyrene.
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

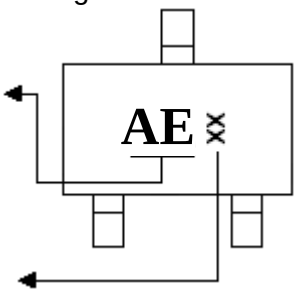
SOT-23 Dimension

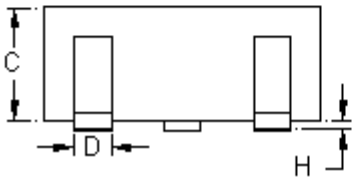


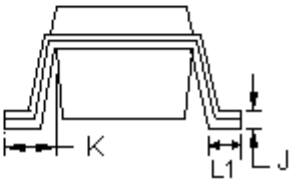
Product Code

Date Code: Year+Month
Year: 7→2017, 8→2018
Month: 1→1, 2→2, • • •
9→9, A→10, B→11, C→12

Marking:







3-Lead SOT-23 Plastic
Surface Mounted Package

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

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0032	0.0079	0.08	0.20
B	0.0472	0.0669	1.20	1.70	K	0.0118	0.0266	0.30	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1161	2.10	2.95
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0000	0.0040	0.00	0.10	L1	0.0118	0.0197	0.30	0.50