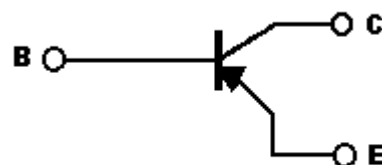
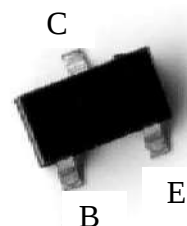


High Voltage PNP Epitaxial Planar Transistor

Features:

- High breakdown voltage. ($BV_{CEO} = -500V$)
- Low saturation voltage, typical $V_{CE(sat)} = -0.2V$ at $I_C/I_B = -20mA/-2mA$.
- Complementary to KWNA45
- Pb-free lead plating and halogen-free package

SOT-23



B : Base C : Collector
 E : Emitter

Ordering Information

Device	Package	Shipping
KWP9050	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}	-500	V
Collector-Emitter Voltage	V _{CEO}	-500	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current(DC)	I _C	-150	mA
Peak Collector Current , single pulse, pulse width tp<1ms	I _{CM}	-500	mA
Peak Base Current, single pulse, pulse width tp<1ms	I _{BM}	-200	mA
Power Dissipation	P _D	300 (Note)	mW
Operating Junction and Storage Temperature Range	T _j ; T _{stg}	-55~+150	°C

Note : Device mounted on a FR-4 PCB, single sided copper, tin plated and standard footprint.

Thermal Characteristics

Parameter	Symbol	Limit	Unit
Thermal Resistance, Junction-to-Ambient, in free air (Note)	R _{th,j-a}	417	°C/W
Thermal Resistance, Junction-to-Solder point	R _{th,j-sp}	70	

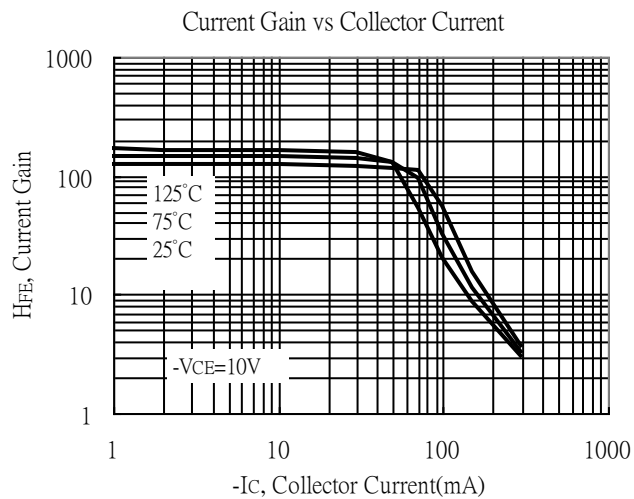
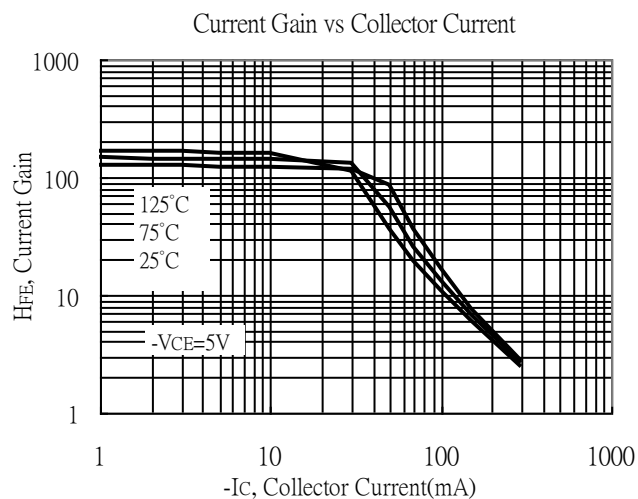
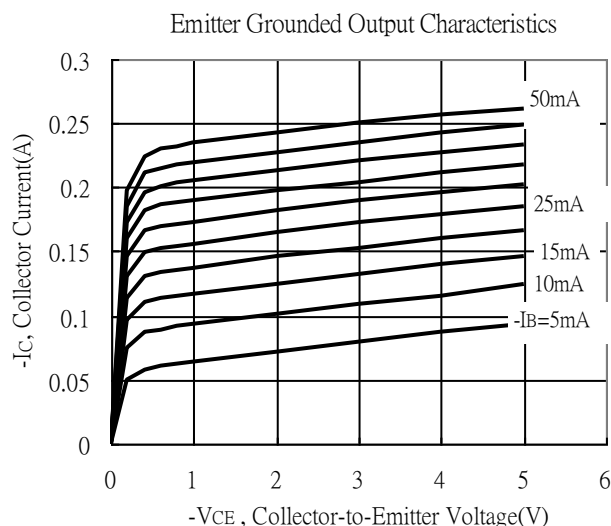
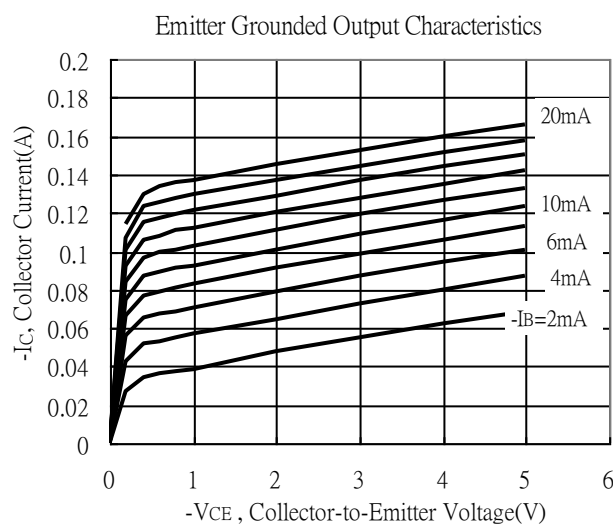
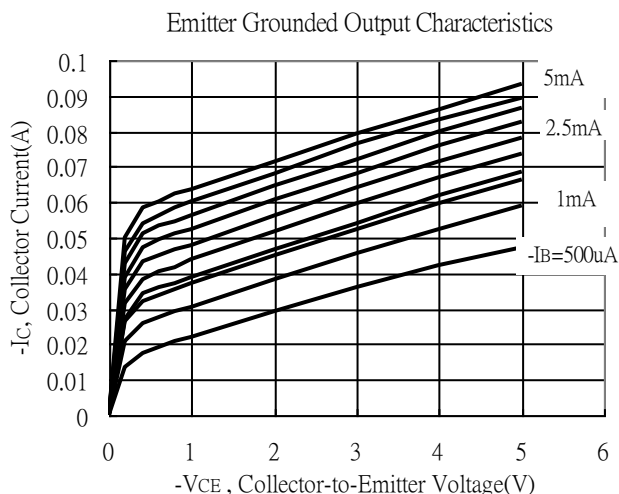
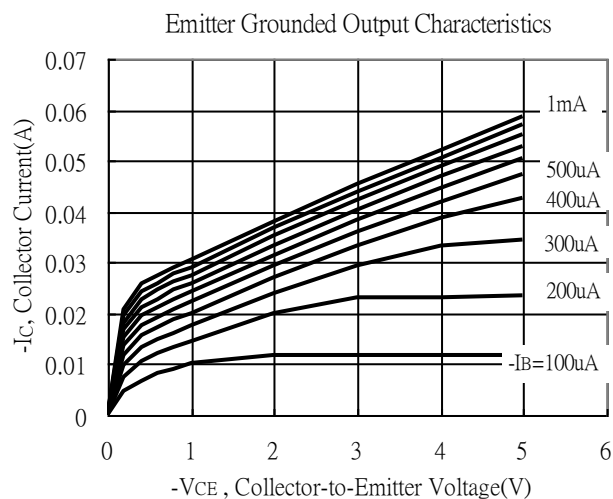
Note : Device mounted on a FR-4 PCB, single sided copper, tin plated and standard footprint.

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	-500	-	-	V	I _C =-100μA
BV _{CEO}	-500	-	-	V	I _C =-1mA
BV _{EBO}	-5	-	-	V	I _E =-50μA
I _{CBO}	-	-	-100	nA	V _{CB} =-480V
I _{CES}	-	-	-100	nA	V _{CE} =-480V, V _{BE} =0V
I _{EBO}	-	-	-1	μA	V _{EB} =-5V
*V _{CE(sat)}	-	-	-0.5	V	I _C =-20mA, I _B =-2mA
*V _{CE(sat)}	-	-	-0.5	V	I _C =-50mA, I _B =-10mA
*V _{BE(sat)}	-	-	-0.9	V	I _C =-50mA, I _B =-10mA
*h _{FE} 1	100	-	300	-	V _{CE} =-10V, I _C =-10mA
*h _{FE} 2	80	-	300	-	V _{CE} =-10V, I _C =-50mA
*h _{FE} 3	40	-	-	-	V _{CE} =-10V, I _C =-100mA
f _T	-	50	-	MHz	V _{CE} =-10V, I _C =-10mA, f=10MHz
C _{ob}	-	12	-	pF	V _{CB} =-10V, I _E =0A, f=1MHz
C _{ib}	-	85	-	pF	V _{EB} =-0.5V, I _C =0A, f=1MHz

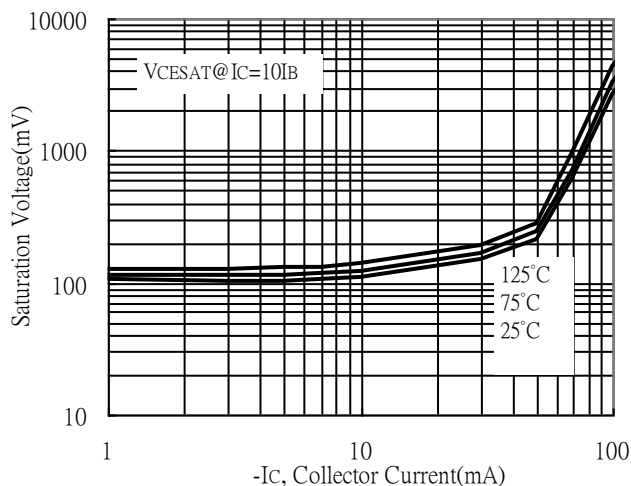
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Typical Characteristics

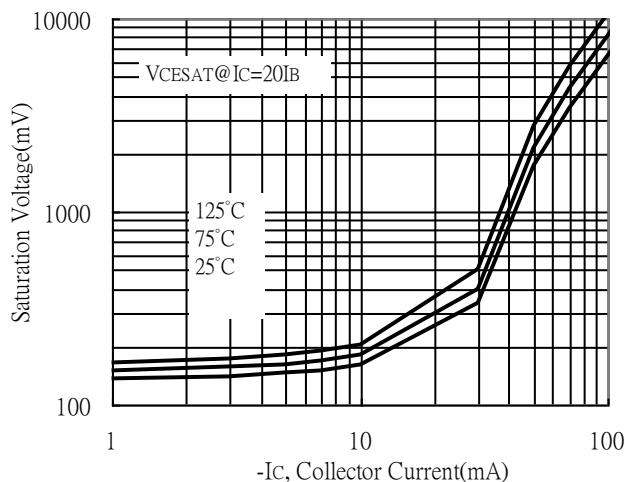


Typical Characteristics

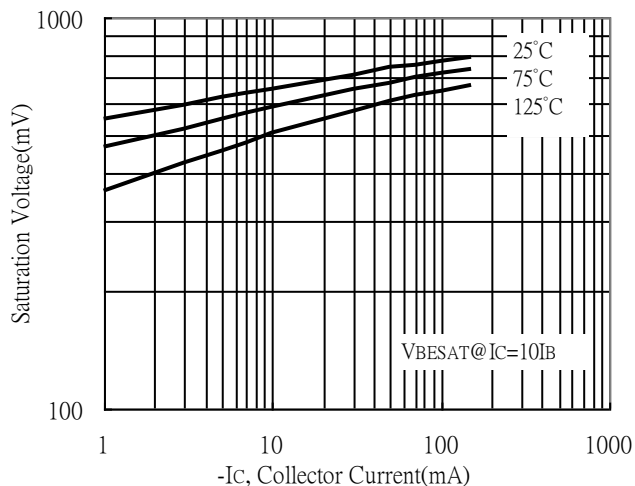
Saturation Voltage vs Collector Current



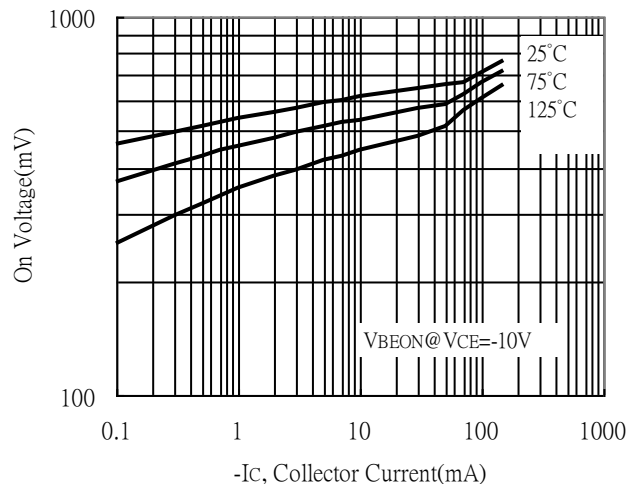
Saturation Voltage vs Collector Current



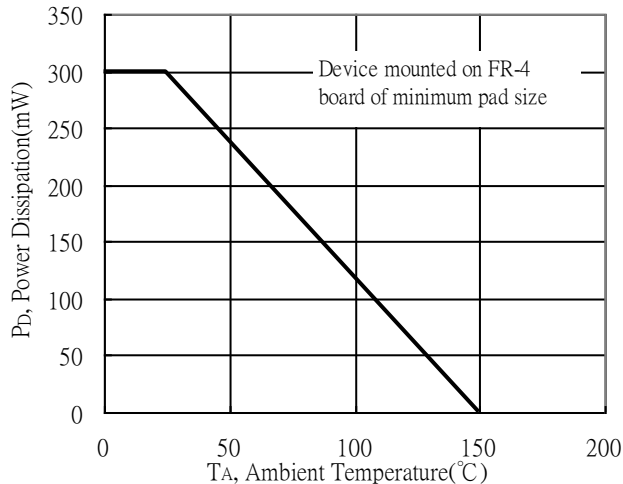
Saturation Voltage vs Collector Current



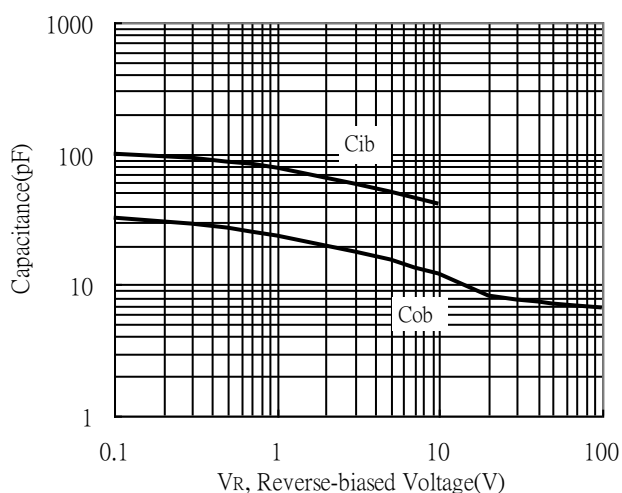
On Voltage vs Collector Current



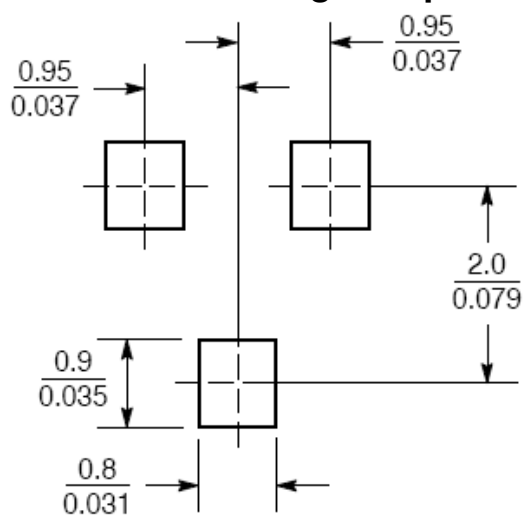
Power Derating Curve



Capacitance vs Reverse-biased Voltage

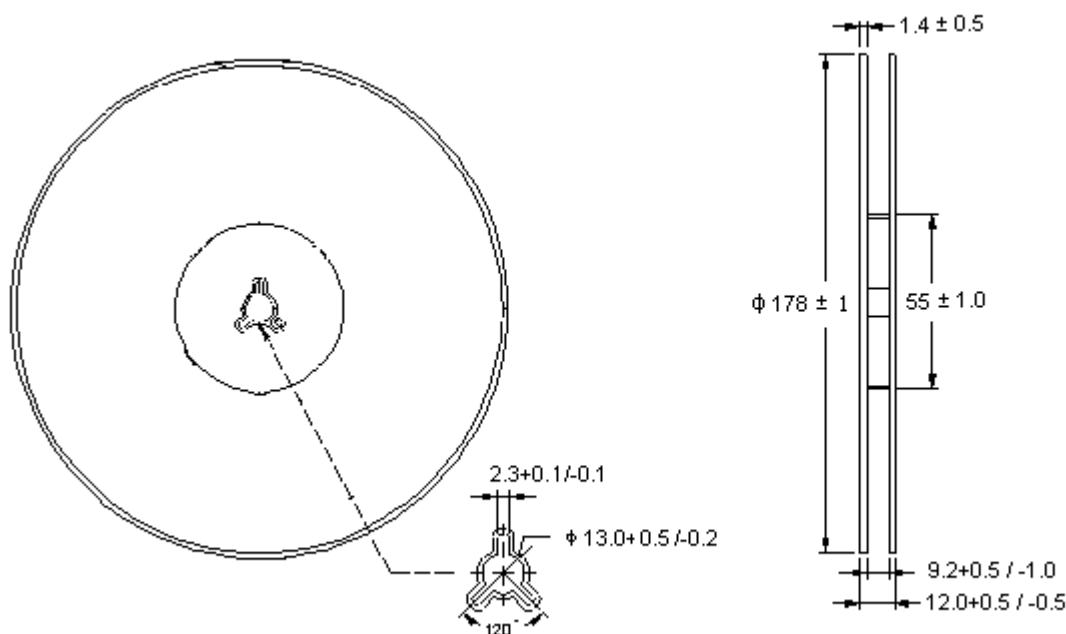


Recommended Soldering Footprint



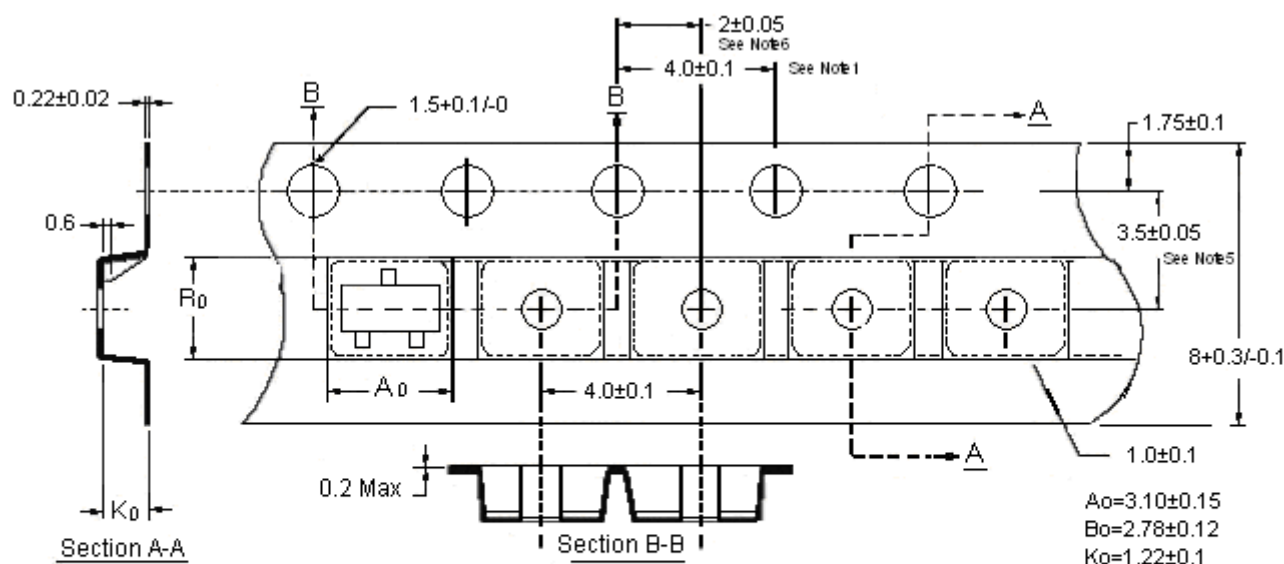
Unit : $\frac{\text{mm}}{\text{inches}}$

Reel Dimension



Unit: millimeter

Carrier Tape Dimension

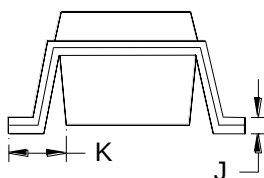
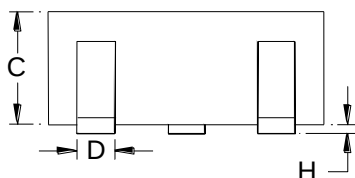
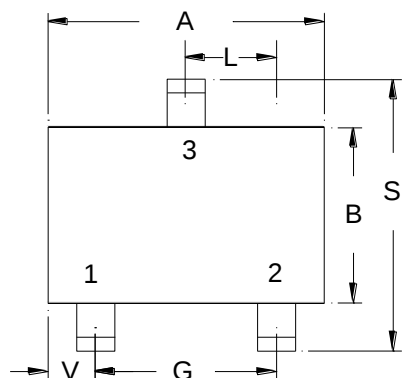


Notes:

1. 10 sprocket hole pitch cumulative tolerance ± 0.2 .
2. Camber not to exceed 1mm in 100mm.
3. Material : conductive Black Polystyrene.
4. A_0 & B_0 measured on a plane 0.3mm above the bottom of the pocket.
5. K_0 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

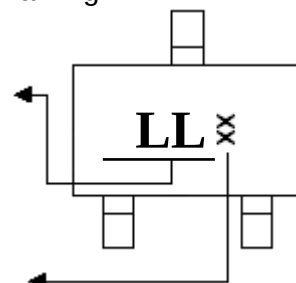
SOT-23 Dimension



Product Code

Date Code: Year+Month
 Year: 7→2007, 8→2008
 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	0.0031	0.0071	0.08	0.18
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	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	0.0005	0.0040	0.013	0.10					