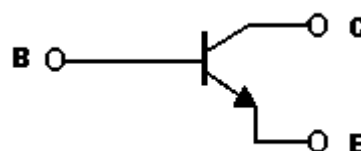
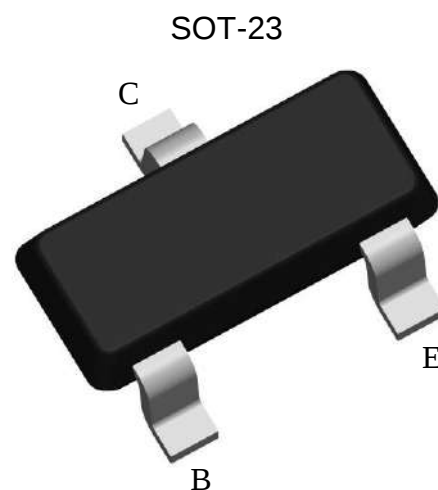


General Purpose NPN Epitaxial Planar Transistor

Description :

- High breakdown voltage.
- Low collector output capacitance.
- Ideal for chroma circuit.
- Pb-free lead plating and halogen-free package.



Ordering Information

Device	Package	Shipping
KWC4061	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 _{CB0}	300	V
Collector-Emitter Voltage	V _{CEO}	300	V
Emitter-Base Voltage	V _{EB0}	6	V
Collector Current	I _C	500	mA
Power Dissipation	P _d	225	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

Thermal Data

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-case, max	R _{th,j-c}	175	°C/W
Thermal Resistance, Junction-to-ambient, max	R _{th,j-a}	556	

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	300	-	-	V	I _C =100μA
BV _{CEO}	300	-	-	V	I _C =1mA
BV _{EB0}	6	-	-	V	I _E =10μA
I _{CB0}	-	-	50	nA	V _{CB} =250V
I _{EB0}	-	-	50	nA	V _{EB} =5V
*V _{CE(sat)}	-	0.15	0.35	V	I _C =20mA, I _B =2mA
*V _{BE(sat)}	-	-	0.9	V	I _C =20mA, I _B =2mA
*h _{FE1}	90	-	-	-	V _{CE} =10V, I _C =1mA
*h _{FE2}	100	-	270	-	V _{CE} =10V, I _C =10mA
*h _{FE3}	40	-	-	-	V _{CE} =10V, I _C =30mA
f _T	50	-	-	MHz	V _{CE} =20V, I _C =10mA, f=20MHz
Cob	-	-	6	pF	V _{CB} =20V, f=1MHz

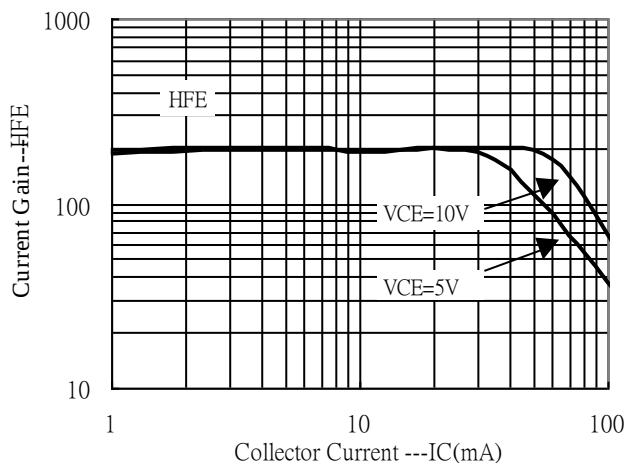
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of h_{FE} 2

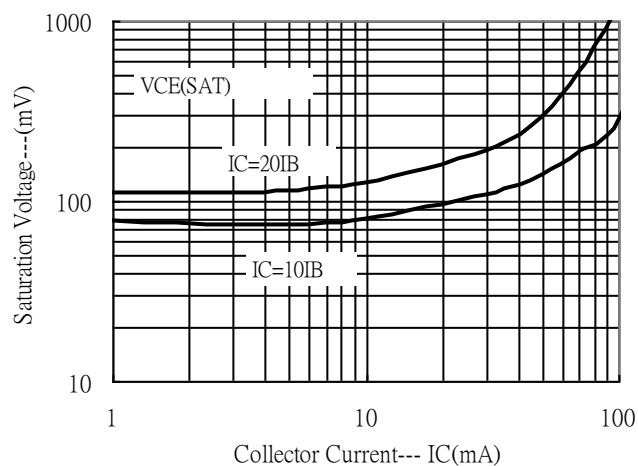
Rank	P	Q
Range	100~180	120~270

Typical Characteristics

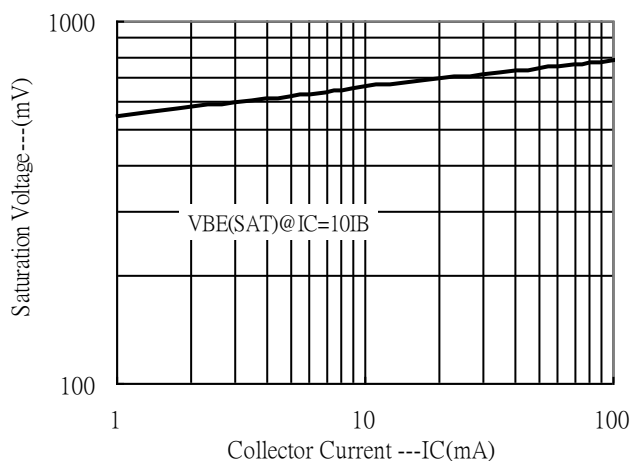
Current Gain vs Collector Current



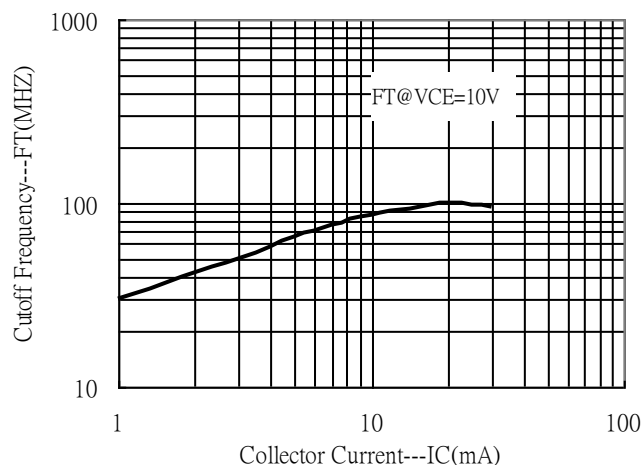
Saturation Voltage vs Collector Current



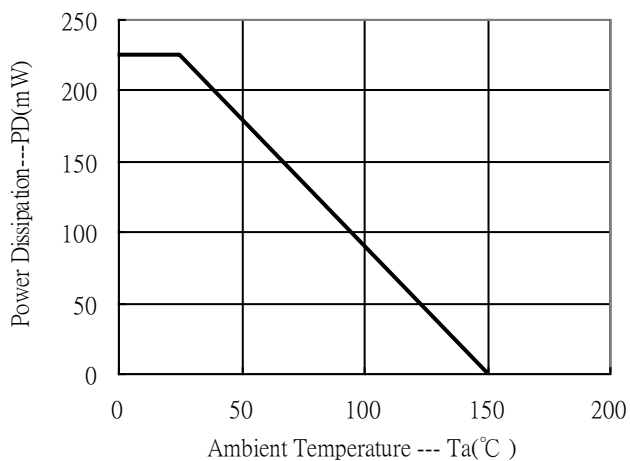
Saturation Voltage vs Collector Current



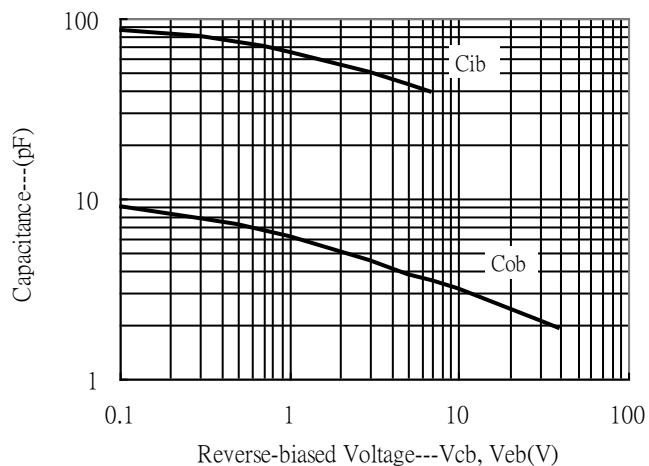
Cutoff Frequency vs Collector Current



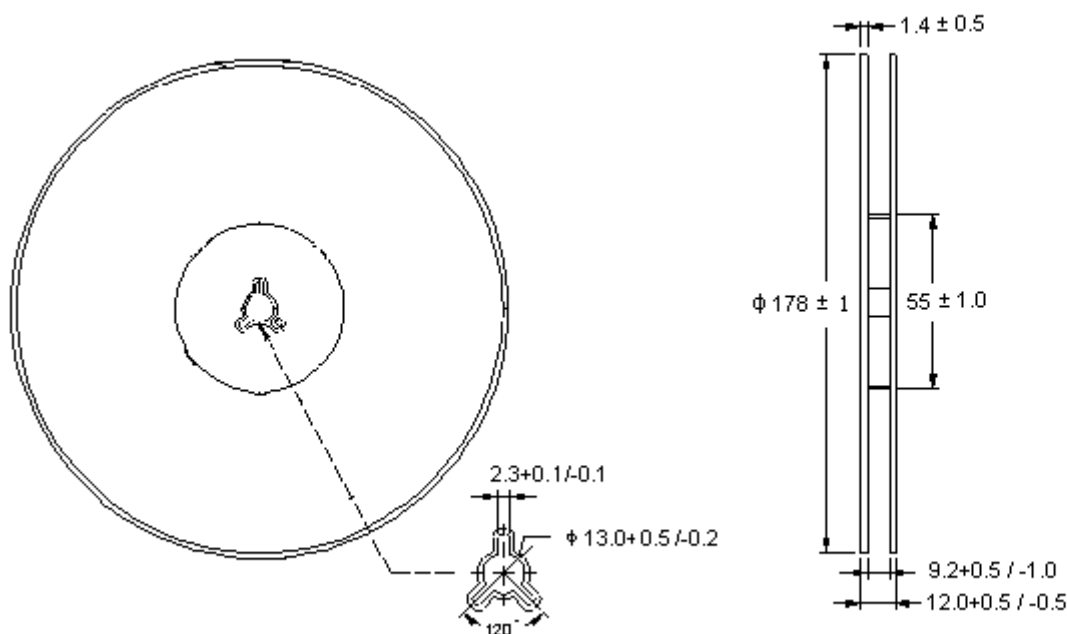
Power Derating Curve



Capacitance vs Reverse-biased Voltage

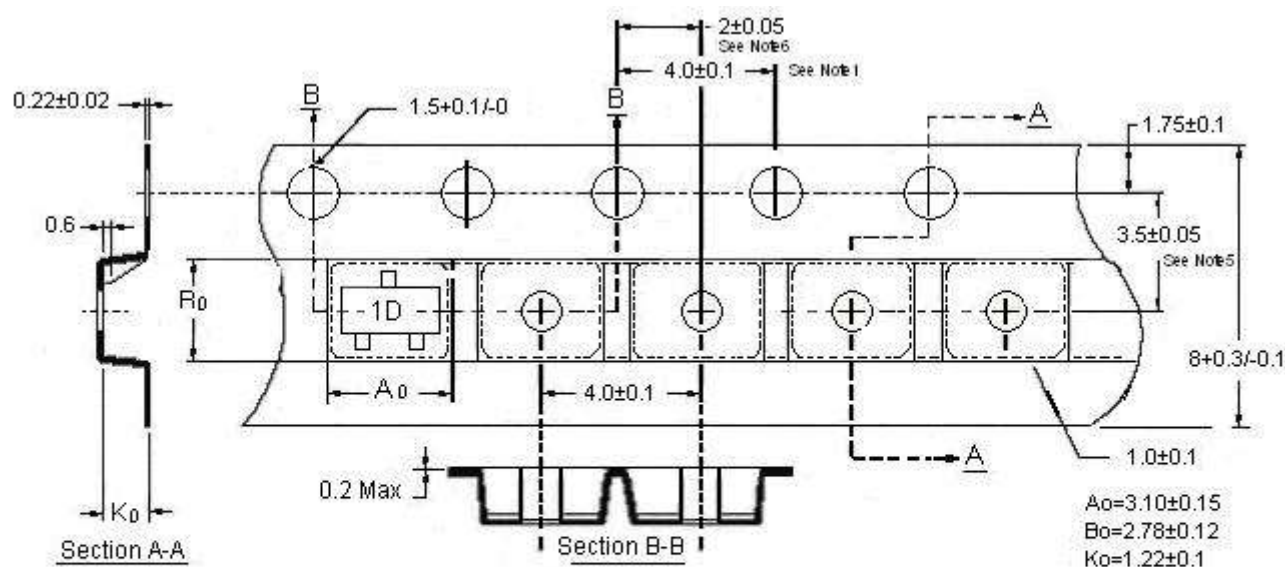


Reel Dimension



Unit: millimeter

Carrier Tape Dimension

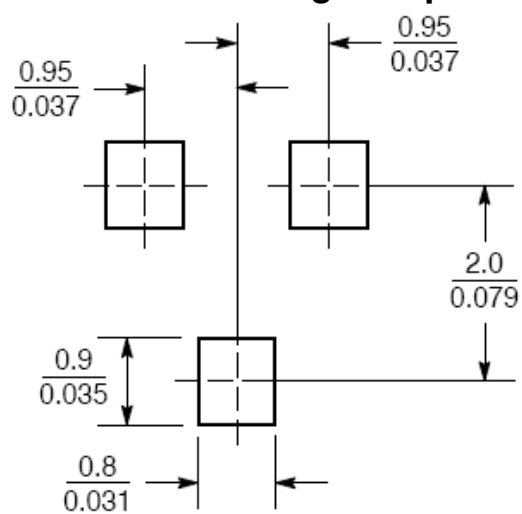


Notes:

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.

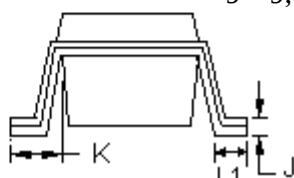
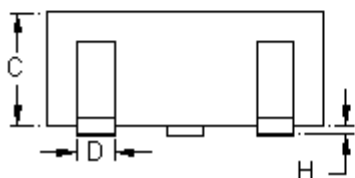
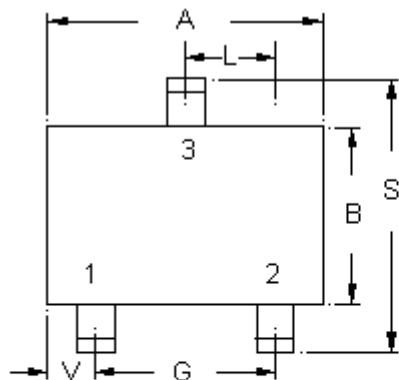
Unit : millimeter

Recommended Soldering Footprint



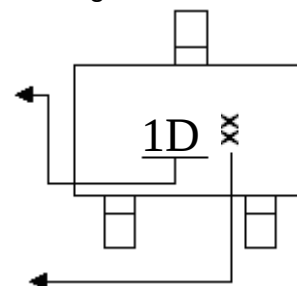
Unit : $\frac{\text{mm}}{\text{inches}}$

SOT-23 Dimension



Marking:

Product Code



Date Code: Year+Month

Year: 3→2003, 4→2004

Month: 1→1, 2→2, . . .

9→9, A→10, B→11, C→12

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	0.0551	1.20	1.40	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	0.1004	2.10	2.55
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