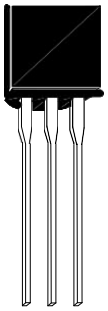
General Purpose NPN Epitaxial Planar Transistor

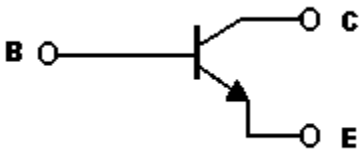
Features:

- The KWC945A3 is designed for use in driver stage of AF amplifier and low speed switching.
- Complementary to KWA733A3.
- Pb-free package

TO-92



E C B



B：Base C
：Collector
E：Emitter

Ordering Information

Device	Package	Shipping
KWC945A3	TO-92 (Pb-free lead plating and halogen-free package)	2000 pcs / Tape & Box
KWC945A3	TO-92 (Pb-free lead plating and halogen-free package)	1000 pcs/ bag, 10 bags/box, 10boxes/carton

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Base Current	I_B	20	mA
Power Dissipation @Ta=25℃	Pd	625	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	60	-	-	V	I_C=100μA
BV_{CEO}	50	-	-	V	I_C=1mA
BV_{EBO}	5	-	-	V	I_E=10μA
I_{CBO}	-	-	100	nA	V_{CB}=60V
I_{EBO}	-	-	100	nA	V_{EB}=5V
*$V_{CE(sat)}$	-	0.2	0.3	V	I_C=100mA, I_B=10mA
*$V_{BE(sat)}$	-	0.85	1.0	V	I_C=100mA, I_B=10mA
V_{BE}	0.55	-	0.65	V	V_{CE}=6V, I_C=1mA
$h_{FE}1$	50	-	-	-	V_{CE}=6V, I_C=0.1mA
$h_{FE}2$	135	-	600	-	V_{CE}=6V, I_C=1mA
f_T	150	-	-	MHz	V_{CE}=6V, I_C=10mA, f=100MHz
Cob	-	9	15	pF	V_{CB}=6V, I_E=0A, f=1MHz

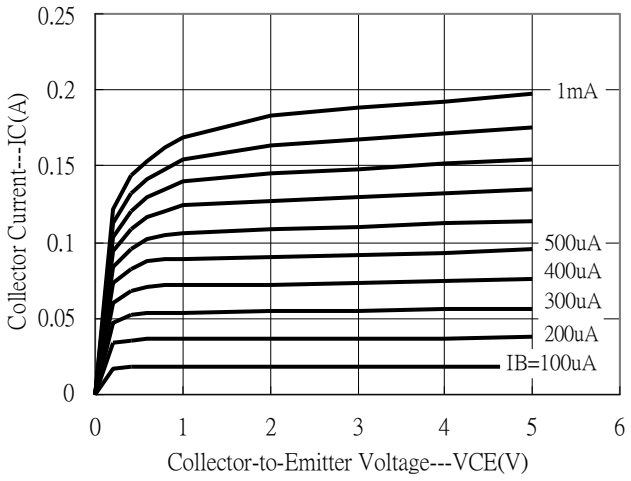
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification of h_{FE} 2

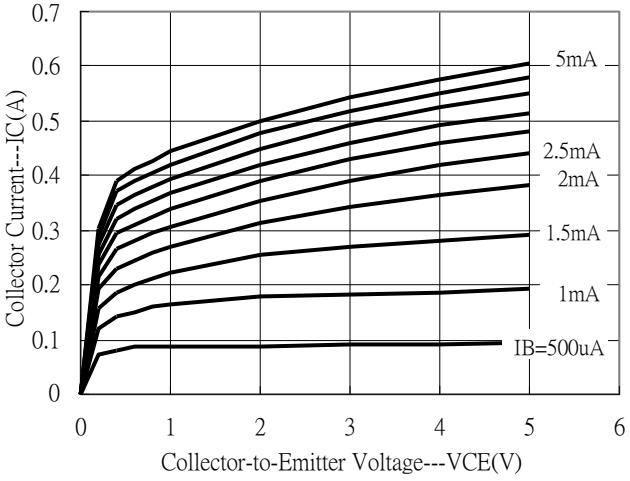
Rank	Q	P	K
Range	135-270	200-400	300-600

Typical Characteristics

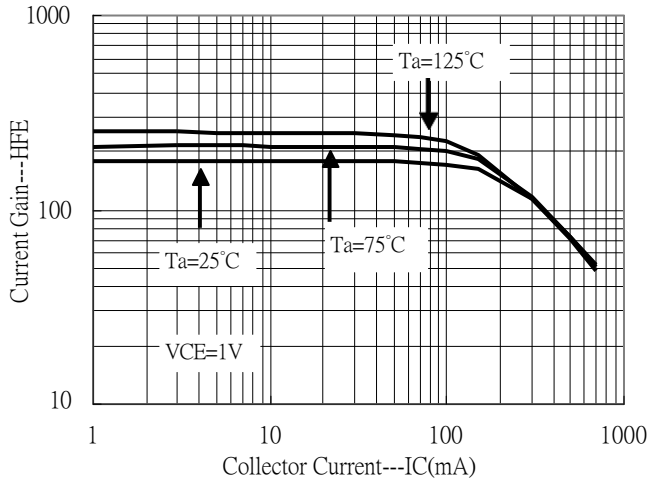
Emitter Grounded Output Characteristics



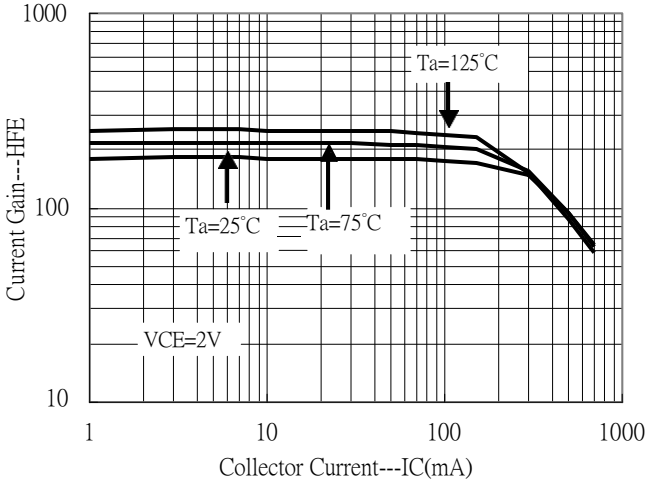
Emitter Grounded Output Characteristics



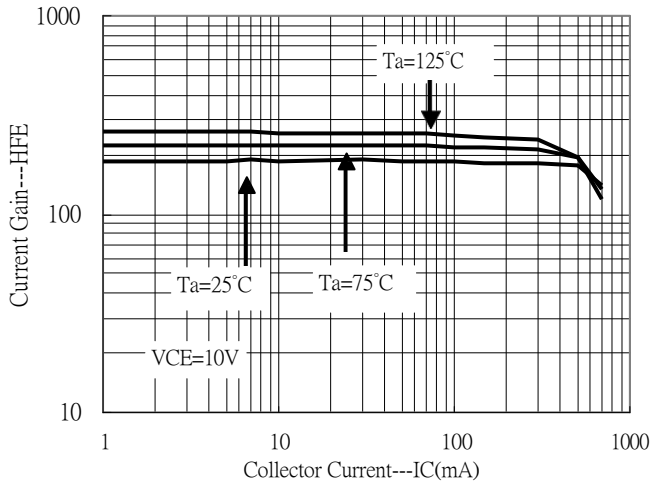
Current Gain vs Collector Current



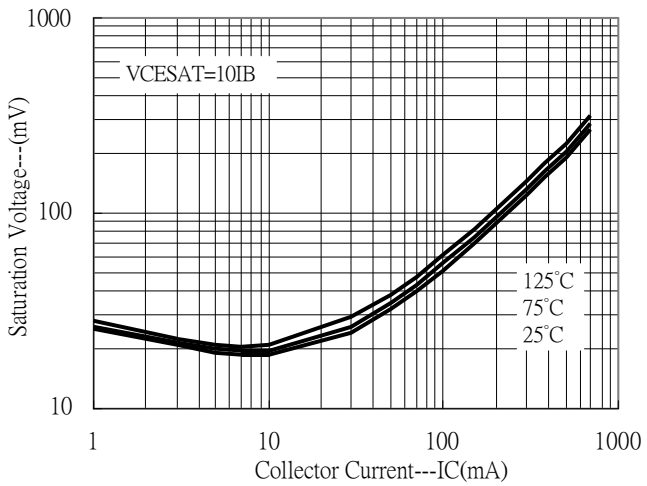
Current Gain vs Collector Current



Current Gain vs Collector Current

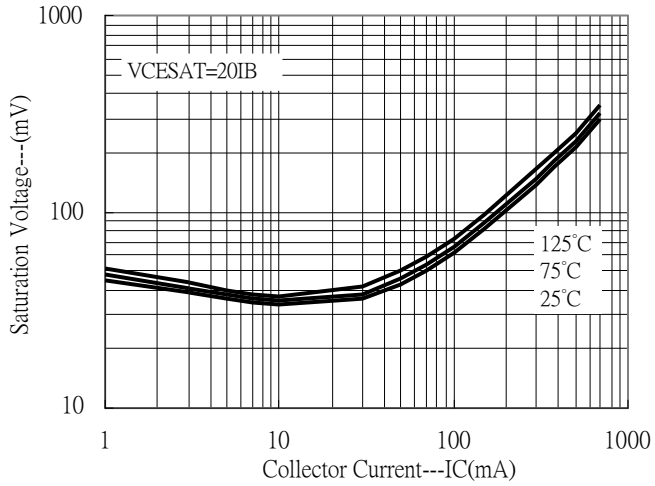


Saturation Voltage vs Collector Current

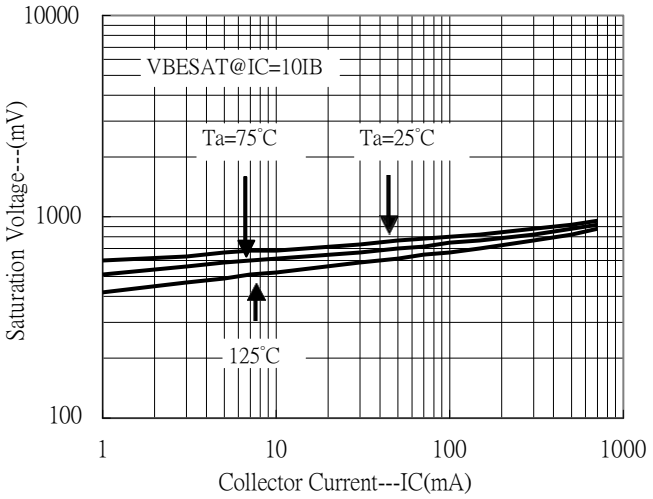


Typical Characteristics(Cont.)

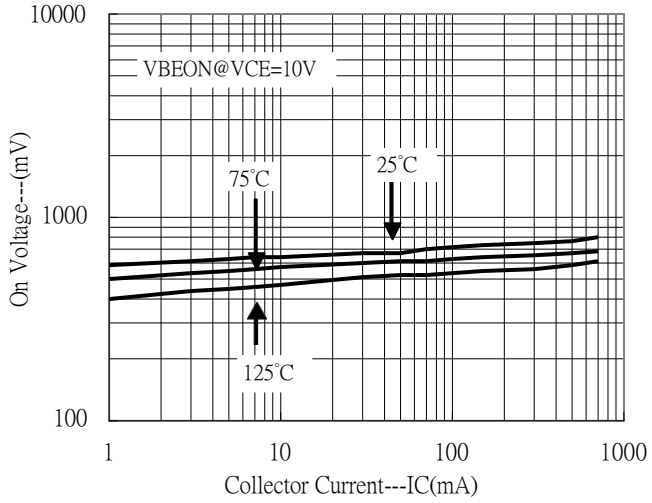
Saturation Voltage vs Collector Current



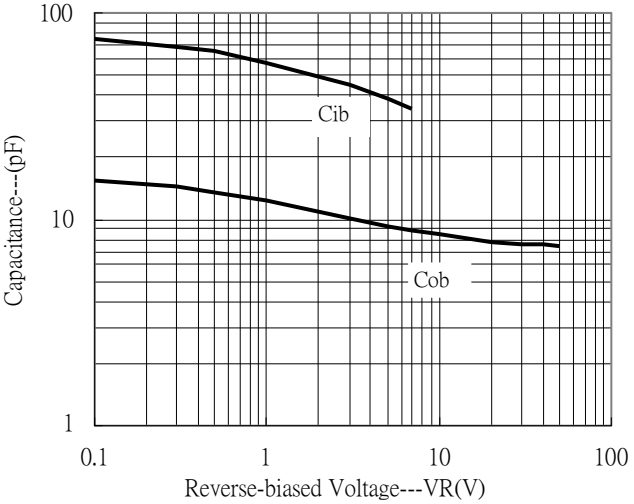
Saturation Voltage vs Collector Current



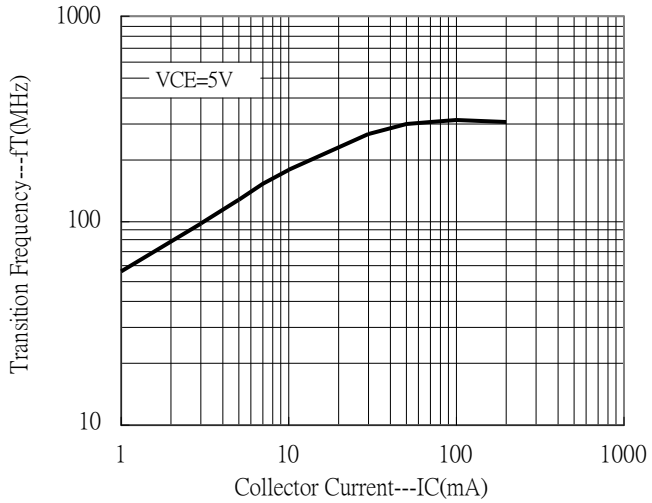
On Voltage vs Collector Current



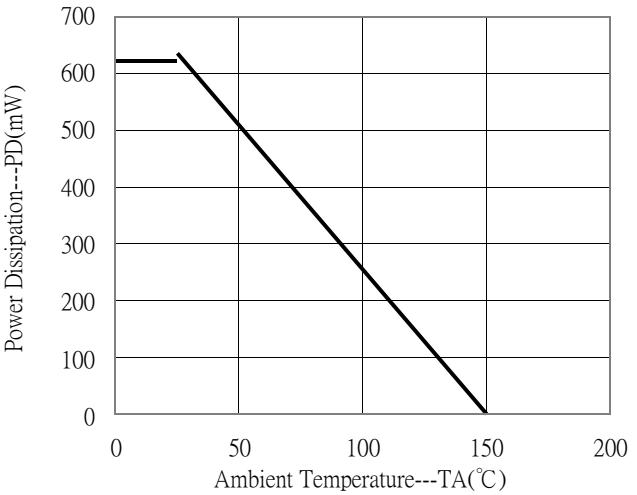
Capacitance vs Reverse-biased Voltage



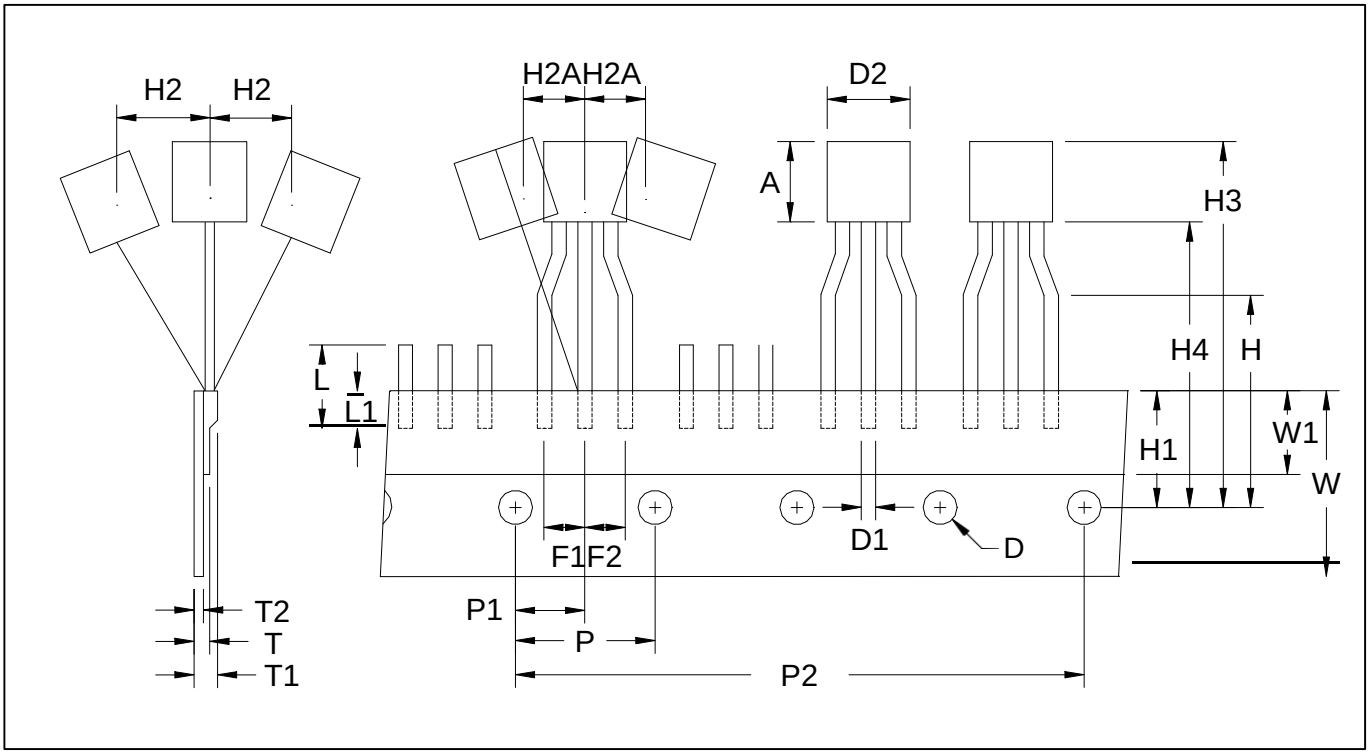
Transition Frequency vs Collector Current



Power Derating Curve

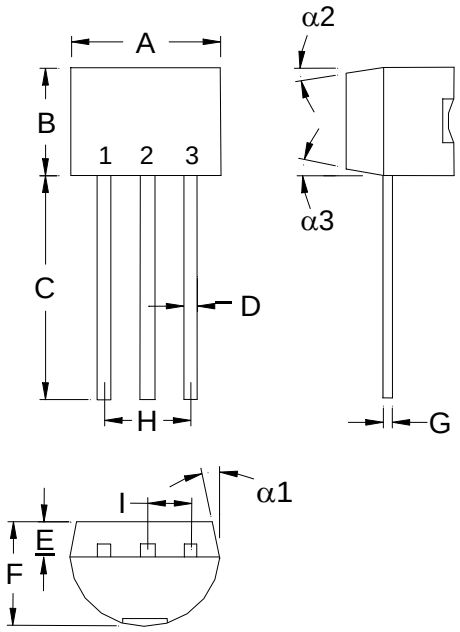


TO-92 Taping Outline

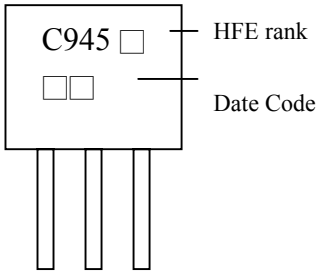


DIM	Item	Millimeters	
		Min.	Max.
A	Component body height	4.33	4.83
D	Tape Feed Diameter	3.80	4.20
D1	Lead Diameter	0.36	0.53
D2	Component Body Diameter	4.33	4.83
F1,F2	Component Lead Pitch	2.40	2.90
F1,F2	F1-F2	-	±0.3
H	Height Of Seating Plane	15.50	16.50
H1	Feed Hole Location	8.50	9.50
H2	Front To Rear Deflection	-	1
H2A	Deflection Left Or Right	-	1
H3	Component Height	-	27
H4	Feed Hole To Bottom Of Component	-	21
L	Lead Length After Component Removal	-	11
L1	Lead Wire Enclosure	2.50	-
P	Feed Hole Pitch	12.50	12.90
P1	Center Of Seating Plane Location	5.95	6.75
P2	4 Feed Hole Pitch	50.30	51.30
T	Over All Tape Thickness	-	0.55
T1	Total Taped Package Thickness	-	1.42
T2	Carrier Tape Thickness	0.36	0.68
W	Tape Width	17.50	19.00
W1	Adhesive Tape Width	5.00	7.00
-	20 pcs Pitch	253	255

TO-92 Dimension



Marking:



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

3-Lead TO-92 Plastic Package
Package Code: A3

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1704	0.1902	4.33	4.83	G	0.0142	0.0220	0.36	0.56
B	0.1704	0.1902	4.33	4.83	H	-	*0.1000	-	*2.54
C	0.5000	-	12.70	-	I	-	*0.0500	-	*1.27
D	0.0142	0.0220	0.36	0.56	α1	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	α2	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	α3	-	*2°	-	*2°