

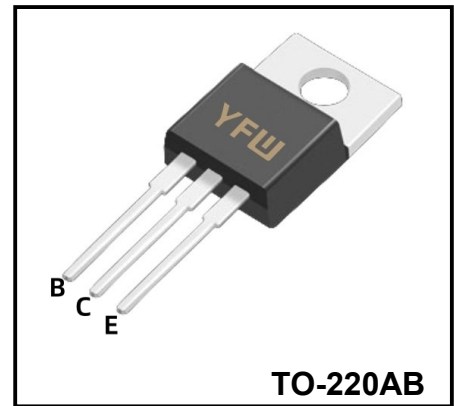
**Plastic-Encapsulate Transistors
NPN High Voltage Switching**

Application

➤TV Horizontal output and switching

Features

➤High breakdown voltage



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	400	V
Collector-Emitter Voltage	BV_{CEO}	200	V
Emitter-Base Voltage	BV_{EBO}	6	V
Collector Current	I_C	7	A
Collector Current Pulse	I_{CP}	10	A
Base Current	I_B	4	A
Collector Power Dissipation	P_C	60	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 100mA, I_B = 0$	200			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 1mA, I_C = 0$	6			V
Collector cut-off current	I_{CES}	$V_{CE} = 400V, V_{BE} = 0$ $V_{CE} = 200V, V_{BE} = 0$			5	mA
					100	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6V, I_C = 0$			1	mA
DC current gain*	h_{FE}	$V_{CE} = 5V, I_B = 2A$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 5A, I_B = 0.5A$			1.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 5A, I_B = 0.5A$			1.2	V
Transition frequency	f_T	$V_{CE} = 10V, I_B = 0.5A$	10			MHz
Turn OFF Time	t_{OFF}	$I_C = 5A, I_B = 0.5A$			0.75	μs

Typical Characteristic

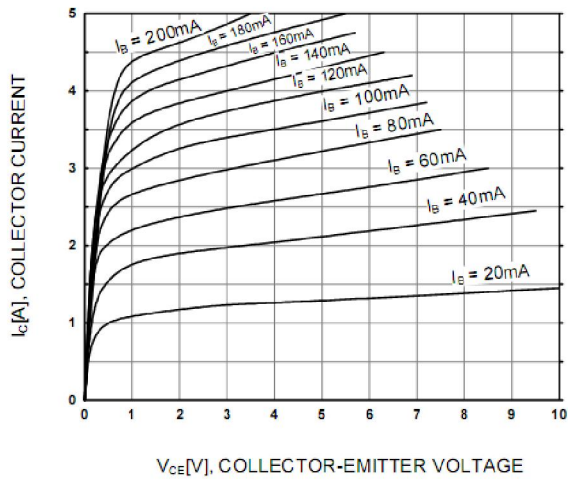


Figure 1. Static Characteristic

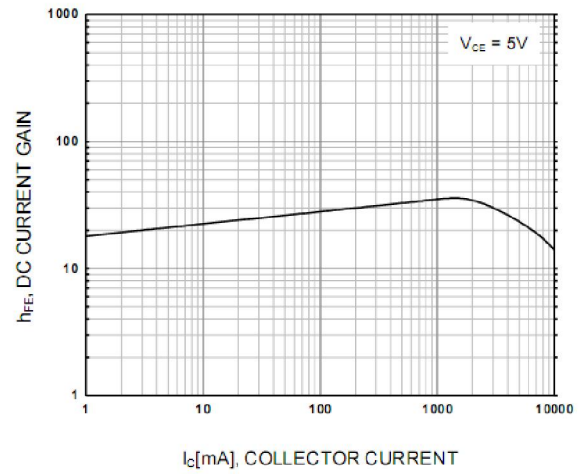
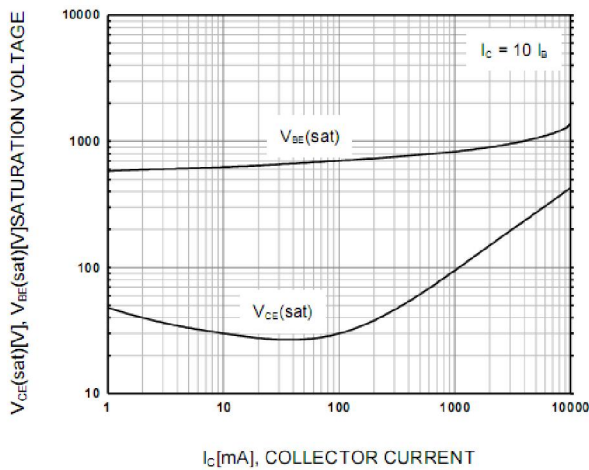


Figure 2. DC current Gain



**Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**

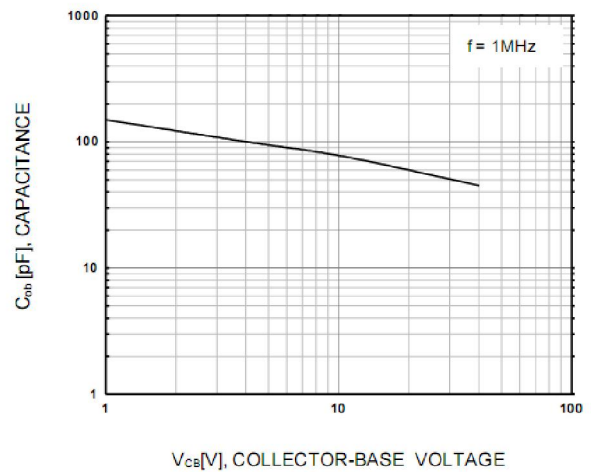


Figure 4. Collector Output Capacitance

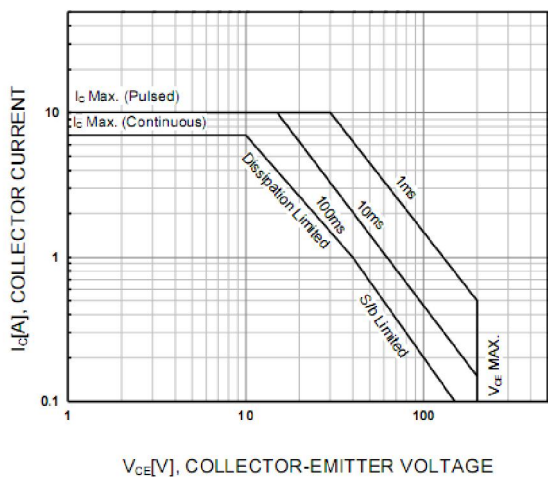


Figure 5. Safe Operating Area

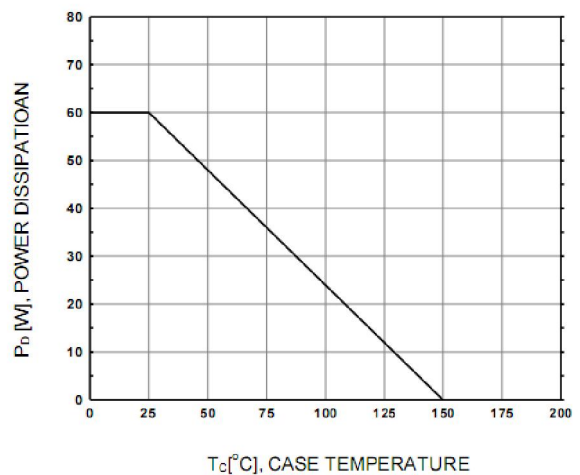
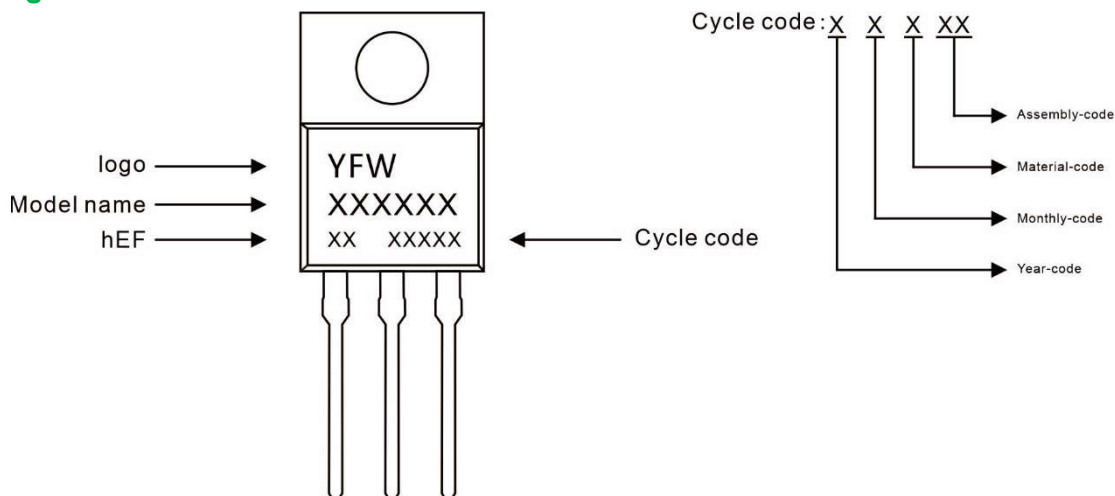


Figure 6. Power Derating

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
BU406	TO-220AB	0.07oz(1.96g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220AB

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	2.52	2.82	0.099	0.111
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.30	0.50	0.012	0.020
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
E1	12.00	12.50	0.472	0.492
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	2.60	2.80	0.102	0.110
L	13.20	13.80	0.520	0.543
L1	3.80	4.20	0.150	0.165
Φ	3.60	3.96	0.142	0.156

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