

Plastic-Encapsulate Transistors

NPN Epitaxial Silicon Transistor

Medium Power Linear Switching Applications

Complementary to TIP32/32A/32B/32C



Absolute Maximum Rating (Ta=25°C)

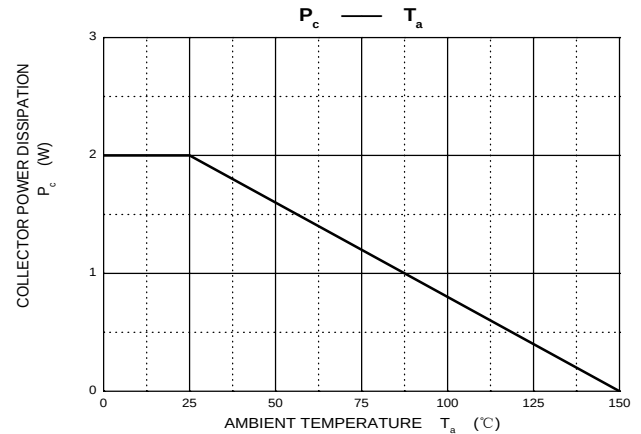
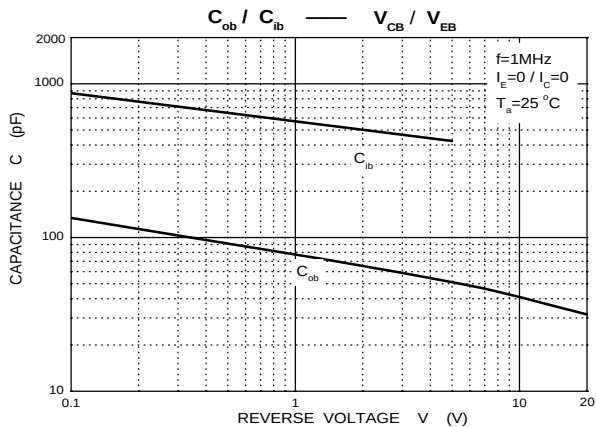
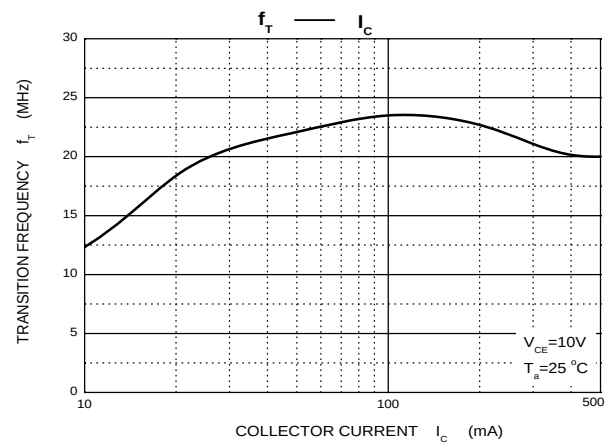
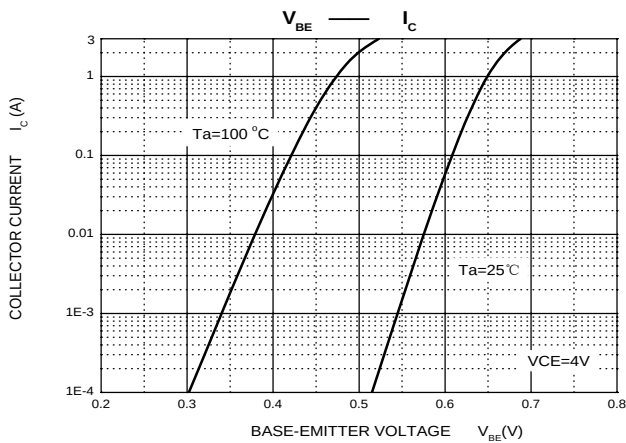
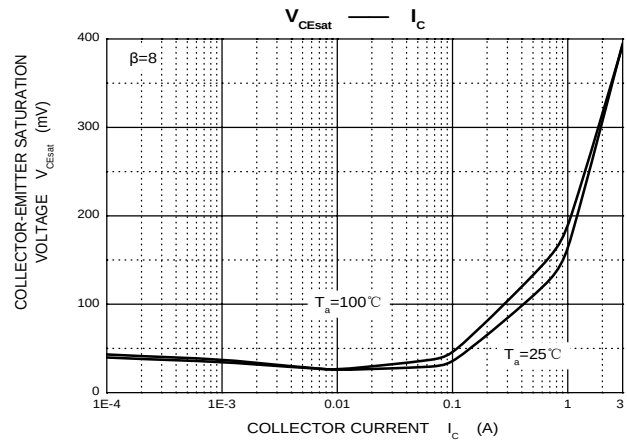
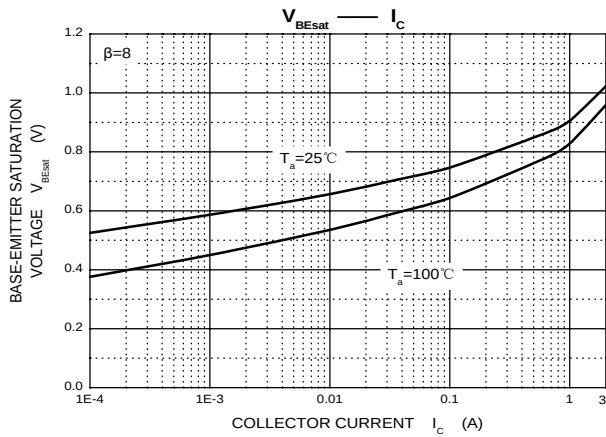
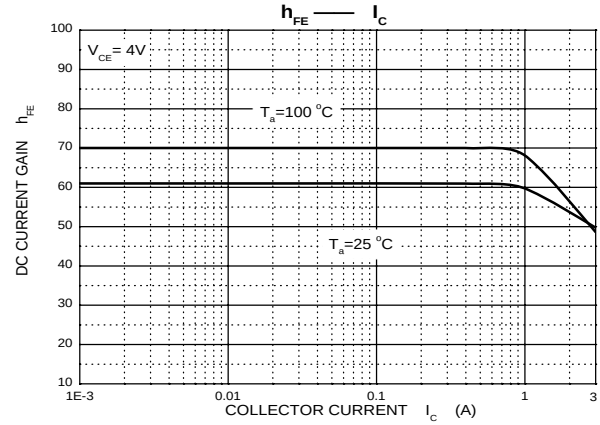
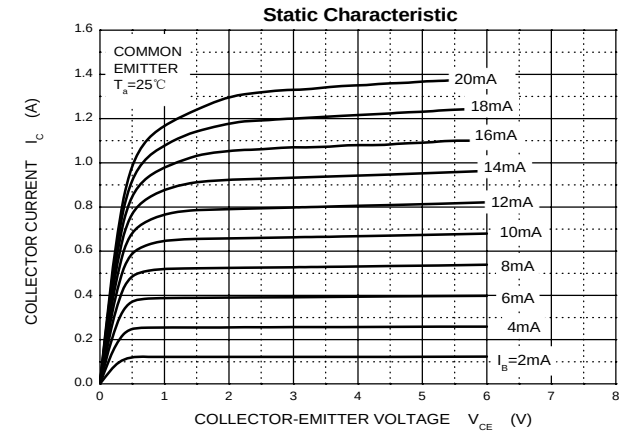
Parameter		Symbol	Value				Unit
			TIP31	TIP31A	TIP31B	TIP31C	
Collector-Base Voltage		V _{CBO}	40	60	80	100	V
Collector-Emitter Voltage		V _{CEO}	40	60	80	100	V
Emitter-Base Voltage		V _{EBO}	5				V
Collector Current(DC)		I _c	3				A
Collector Dissipation	T _a =25 °C	P _C	2				W
	T _c =25 °C		40				
Junction Temperature		T _j	150				°C
Storage Temperature		T _{stg}	-65~150				°C

Electrical Characteristics (Ta=25°C)

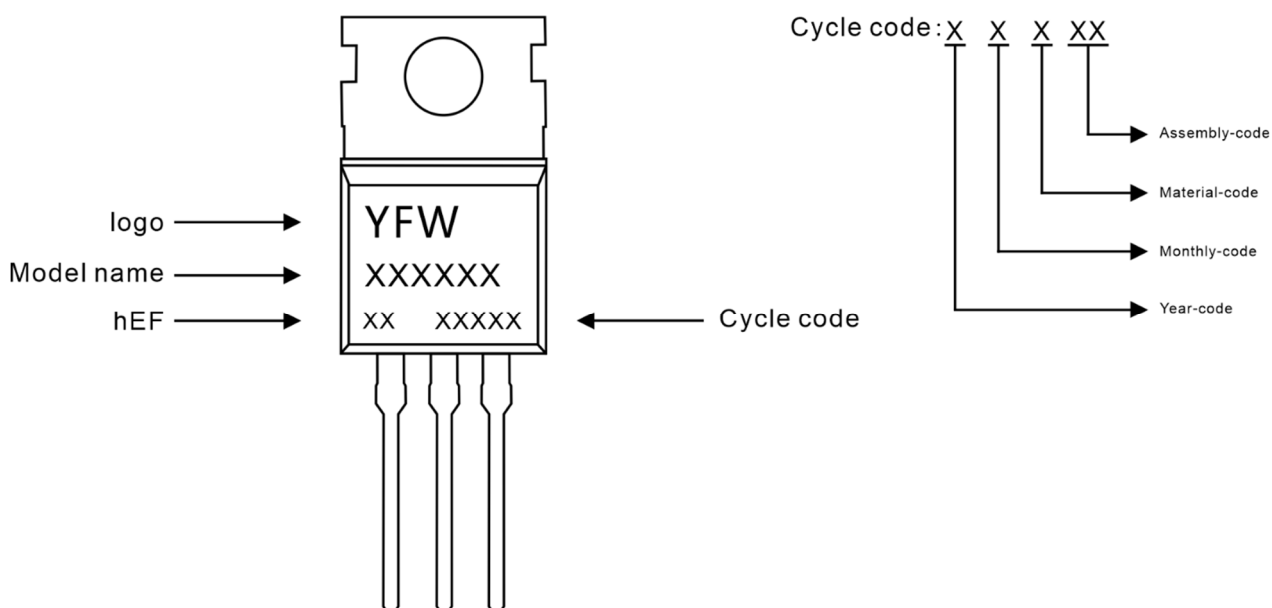
Parameter		Symbol	Conditions	Value			Unit
				Min	Typ	Max	
Collector-Emitter Sustaining Voltage	TIP31 TIP31A TIP31B TIP31C	V _{CEO(sus)}	I _C = 30mA, I _B = 0	40 60 80 100			V
Collector cut-off current	TIP31 TIP31A TIP31B TIP31C	I _{CBO}	V _{CE} =40V, I _E = 0 V _{CE} = 60V, I _E = 0 V _{CE} = 80V, I _E = 0 V _{CE} =100V, I _E = 0			200	μA
Collector cut-off current	TIP31/31A TIP31B/31C	I _{CEO}	V _{CB} = 30V, I _E = 0 V _{CB} = 60V, I _E = 0			0.3	mA
Emitter cut-off current			V _{EB} = 5V, I _C = 0			1	mA
* DC current gain		h _{FE}	V _{CE} = 4V, I _C = 1A V _{CE} = 4V, I _C = 3A	25 10		50	
*Collector-emitter saturation voltage		V _{CE(sat)}	I _C = 3A, I _B = 375mA			1.2	V
* Base-Emitter ON Voltage		V _{BE (on)}	V _{CE} = 4V, I _C = 3A			1.8	V
Current Gain Bandwidth Product		f _T	V _{CE} =10V, I _C =500mA	3.0			MHz

* Pulse Test : PW≤300μs, Duty cycle≤2%

Typical Characteristics



Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
TIP31XXX	TO-220C	0.07oz(1.96g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220C

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.34	4.67	0.171	0.184
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

Disclaimer

The information presented in this document is for reference only. GuangDong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.