

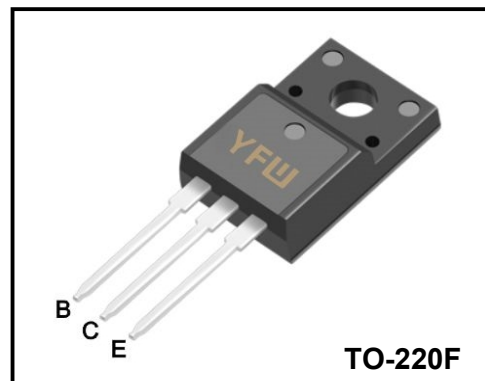
NPN Plastic-Encapsulate Transistors

APPLICATIONS

- ◆Power amplifier
- ◆Driver stage amplifier

FEATURES

- ◆High transition frequency
- ◆Complementary to 2SA1930AF



TO-220F

Absolute Maximum Rating (Ta=25°C)

Parameter		Symbol	Value	Unit
Collector-base voltage		BV_{CBO}	180	V
Collector-emitter voltage		BV_{CEO}	180	V
Emitter-base voltage		BV_{EBO}	5	V
Collector current		I_C	2	A
Base current		I_B	1	A
Collector power dissipation	Ta=25°C	P_C	2	W
	Tc=25°C		20	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	-55~150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	180			V
Collector-emitter voltage	BV_{CEO}	$I_C = 10mA, I_B = 0$	180			V
Emitter-base voltage	BV_{EBO}	$I_E = 100\mu A, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 180V, I_E = 0$			5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			5	μA
DC current gain	h_{FE1}	$V_{CE} = 5V, I_C = 0.1A$	100		320	
	h_{FE2}	$V_{CE} = 5V, I_C = 1A$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 0.1A$			1.0	V
Base-emitter saturation voltage	$V_{BE(on)}$	$V_{CE} = 5V, I_C = 1A$			1.5	V
Transition frequency	f_T	$V_{CE} = 5V, I_C = 0.3A$		200		MHz
Output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		16		pF

h_{FE1} Classification

Classification	2SC5171AF-O	2SC5171AF-Y
Range	100~200	160~320

Typical Characteristics

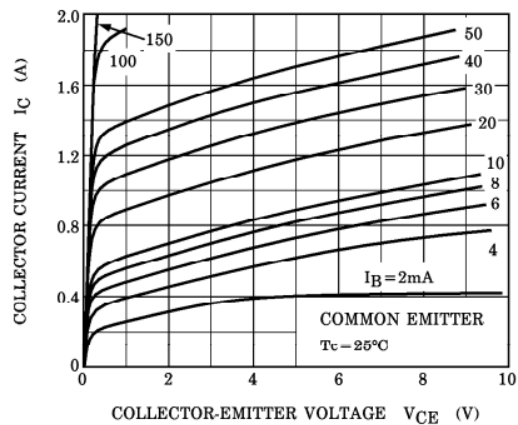


Figure 1. Static characteristics

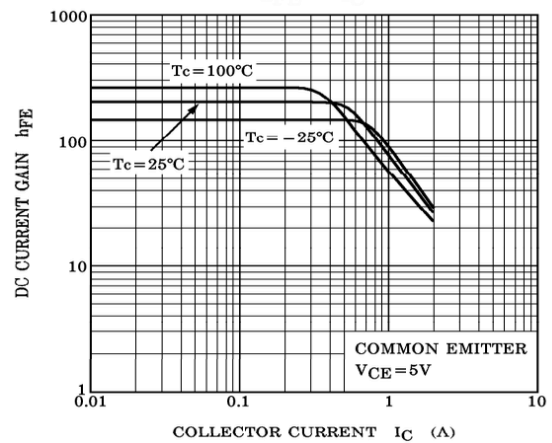


Figure 2. DC Current Gain

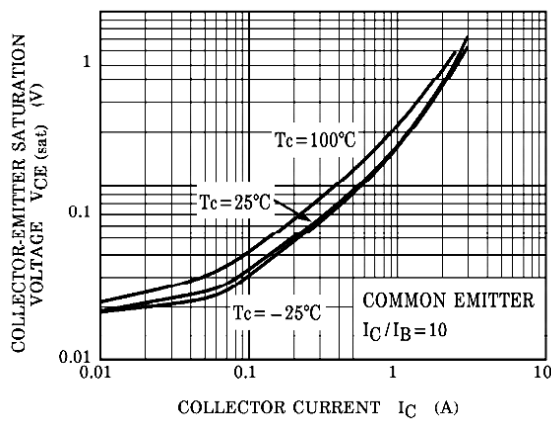


Figure 3. Collector -emitter saturation voltage

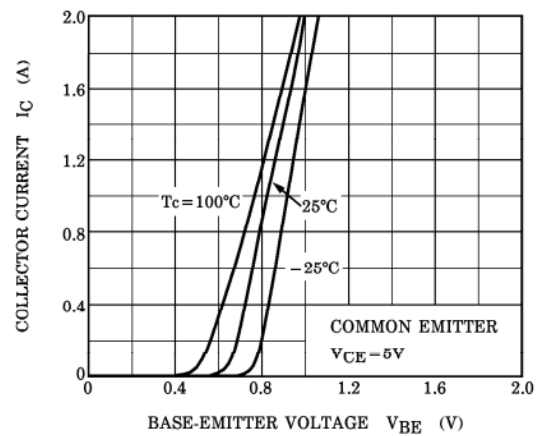


Figure 4. Base-emitter on voltage

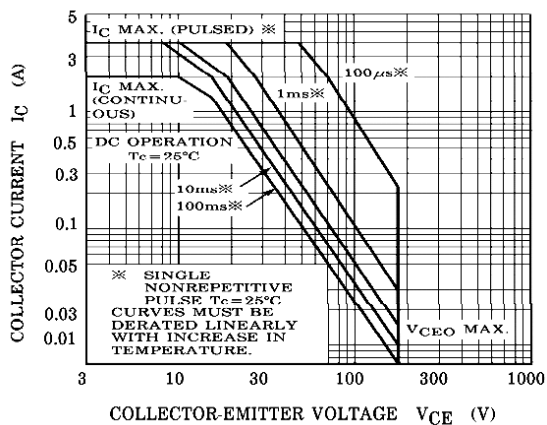
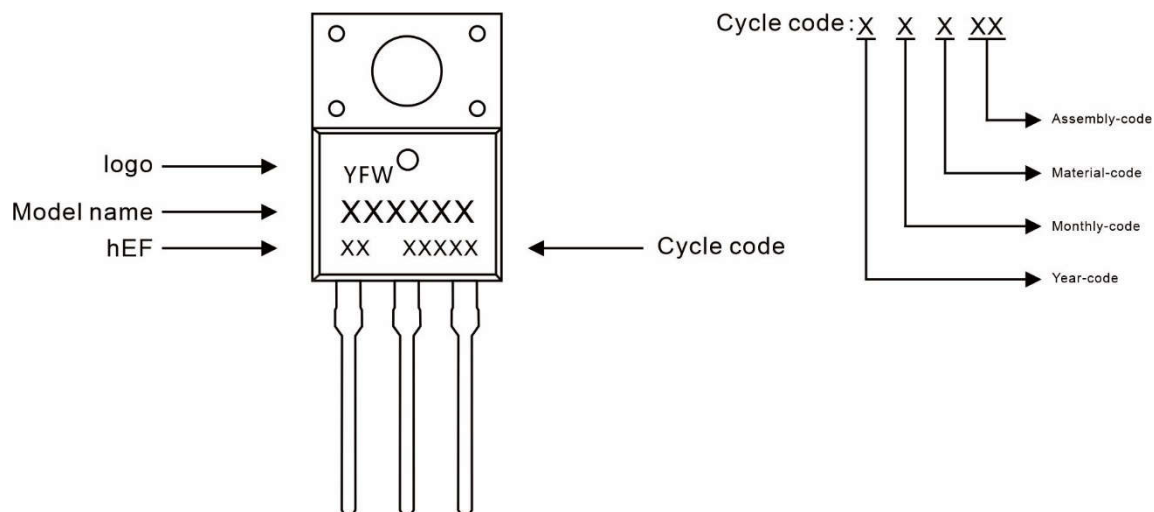


Figure 5. Safe operation area

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
2SC5171AF	TO-220F	0.06oz(1.74g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220F

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.50	4.90	0.177	0.193
A1	2.34	2.74	0.092	0.108
A2	2.66	2.86	0.105	0.113
b	0.75	0.85	0.030	0.033
b1	1.24	1.44	0.049	0.057
c	0.40	0.60	0.016	0.024
D	10.00	10.32	0.394	0.406
E	15.75	16.05	0.620	0.632
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	3.10	3.5	0.122	0.138
L	13.50	13.90	0.531	0.547
L1	2.90	3.30	0.114	0.130
Φ	3.10	3.30	0.122	0.130

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.