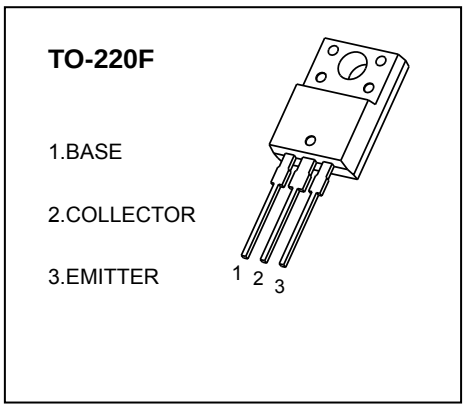
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220F Plastic-Encapsulate Transistors

2SB946 TRANSISTOR (PNP)



FEATURES

- Low Collector to Emitter Saturation Voltage $V_{CE(sat)}$
- Satisfactory Linearity of Forward Current Transfer Ratio h_{FE}
- Large Collector Current I_C

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-130	V
V_{CEO}	Collector-Emitter Voltage	-80	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current	-7	A
P_C	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	62.5	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

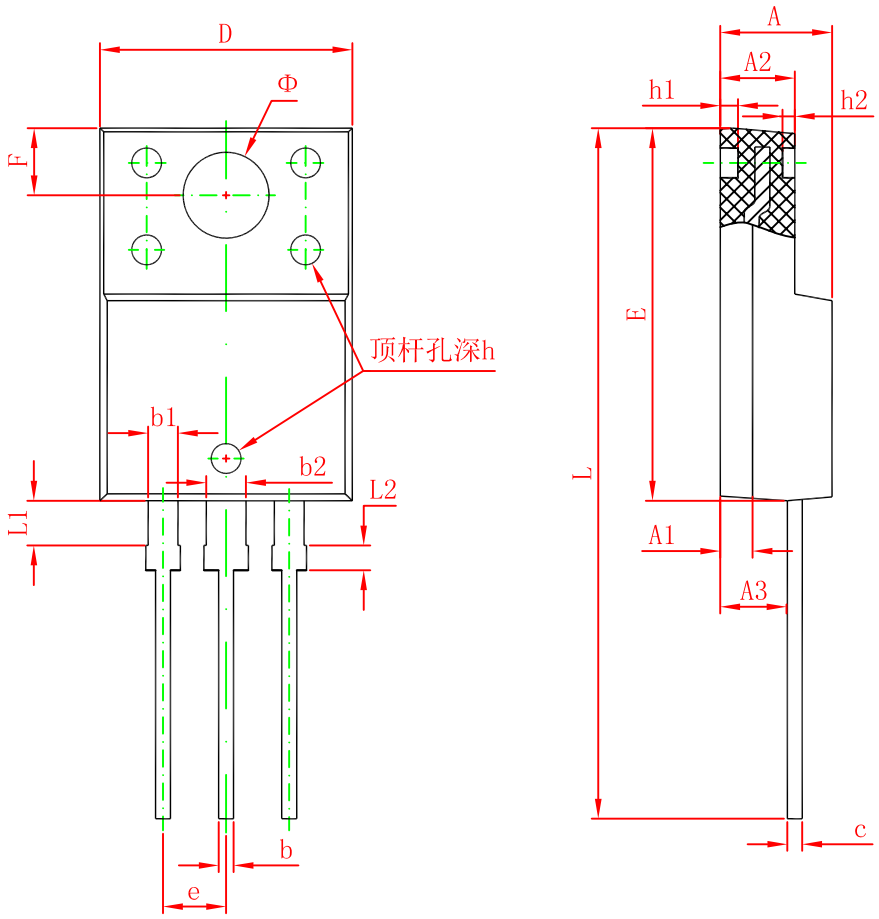
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100uA,I_E=0	-130			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA,I_B=0	-80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100uA,I_C=0	-7			V
Collector cut-off current	I_{CBO}	V_{CB}=-100V,I_E=0			-10	uA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-50	uA
DC current gain	$h_{FE(1)}$	V_{CE}=-2V, I_C=-0.1A	45			
	$h_{FE(2)}$	V_{CE}=-2V, I_C=-3A	60		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-5A,I_B=-250mA			-0.5	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$	I_C=-5A,I_B=-250mA			-1.5	V
Transition frequency	f_T	V_{CE}=-10V,I_C=-0.5A，f=10MHz		30		MHz

CLASSIFICATION OF $h_{FE(2)}$

RANK	R	Q	P
RANGE	60-120	90-180	130-260

TO-220F Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.300 REF.		0.051 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
Φ	3.500 REF.		0.138 REF.	
h	0.000	0.300	0.000	0.012
h1	0.800 REF.		0.031 REF.	
h2	0.500 REF.		0.020 REF.	
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	0.900	1.100	0.035	0.043