

**TO-220F Plastic-Encapsulate Transistors**

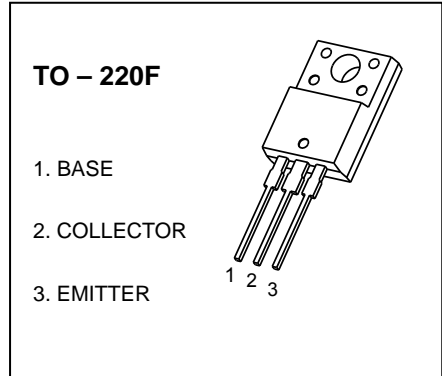
**KTB1367** TRANSISTOR (PNP)

**FEATURES**

- Low Collector-Emitter Saturation Voltage
- General Purpose Applications

**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	-100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-100	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current	-5	A
P <sub>C</sub>	Collector Power Dissipation	2	W
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	62.5	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C



**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

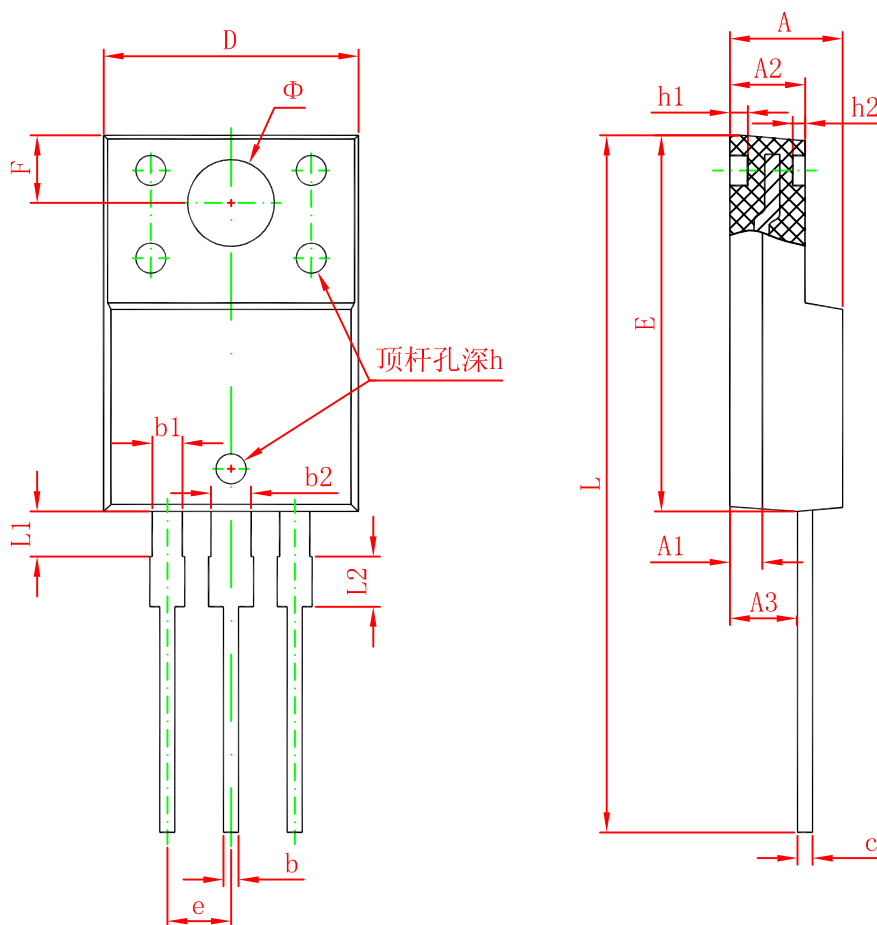
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-1mA, I <sub>E</sub> =0	-100			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub> *	I <sub>C</sub> =-50mA, I <sub>B</sub> =0	-100			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub> *	I <sub>E</sub> =-10mA, I <sub>C</sub> =0	-5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =-100V, I <sub>E</sub> =0			-100	μA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> =-50V, I <sub>B</sub> =0			-500	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-1	mA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-1A	40		240	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-4A	20			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-4A, I <sub>B</sub> =-0.4A			-2	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-4A			-1.5	V
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz		270		pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-1A		5		MHz

\*Pulse test

**CLASSIFICATION OF h<sub>FE(1)</sub>**

RANK	R	O	Y
RANGE	40-80	70-140	120-240

# 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	1.900	2.100	0.075	0.083