

TO-220F Plastic-Encapsulate Transistors

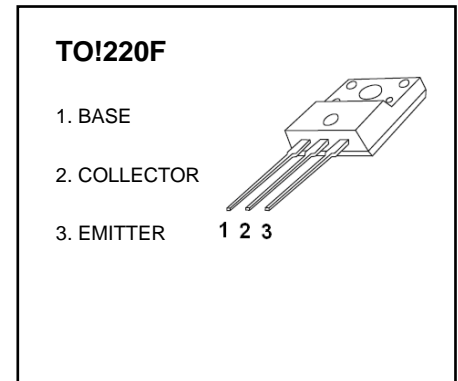
2SB834 TRANSISTOR (PNP)

FEATURES

- Low Collector -emitter saturation voltage
 $V_{CE(sat)}=1.0V(\text{Max}) @ I_C=-3A, I_B=-0.3A$
- DC current Gain
 $h_{FE} =60-200 @ I_C=0.5A$
- Complementary to NPN 2SD880

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector- Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current -Continuous	-3	A
P_C	Collector Power Dissipation	1.5	W
$R_{\theta JC}$	Thermal resistance, junction to case	83.3	$^\circ\text{C}/\text{W}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-1\text{mA}, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-50\text{mA}, I_B=0$	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-1\text{mA}, I_C=0$	-7			V
Collector cut-off current	I_{CBO}	$V_{CB}=-60\text{V}, I_E=0$			-100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-7\text{V}, I_C=0$			-100	μA
DC current gain	$h_{FE(1)*}$	$V_{CE}=-5\text{V}, I_C=-500\text{mA}$	60		200	
	$h_{FE(2)*}$	$V_{CE}=-5\text{V}, I_C=-3\text{A}$	20			
Collector-emitter saturation voltage	$V_{CE(sat)*}$	$I_C=-3\text{A}, I_B=-0.3\text{A}$			-1	V
Base-emitter voltage	V_{BE*}	$V_{CE}=-5\text{V}, I_C=-500\text{mA}$			-1	V
Transition frequency	f_T	$V_{CE}=-5\text{V}, I_C=-500\text{mA}, f=1\text{MHz}$	5			MHz
Turn-on Time	t_{on}	$V_{CC}=-30\text{V}, I_C=-2\text{A}, I_{B1}=I_{B2}=-0.2\text{A}$		0.7		μs
Storage Time	t_{stg}			2.0		μs
Turn-off Time	t_{off}			0.9		μs

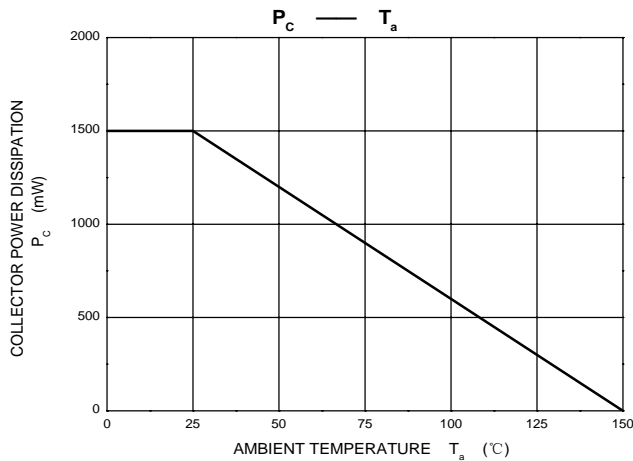
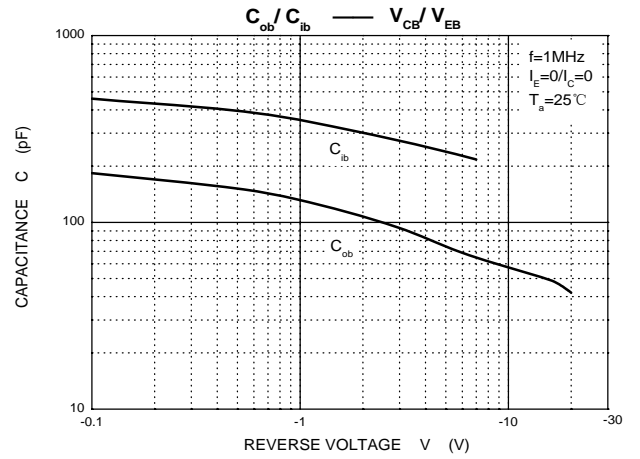
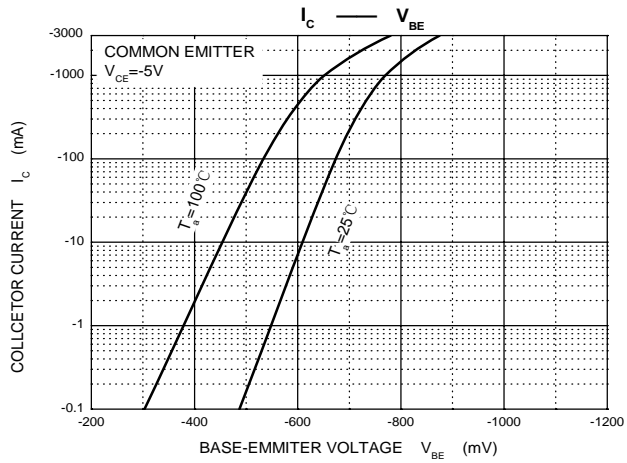
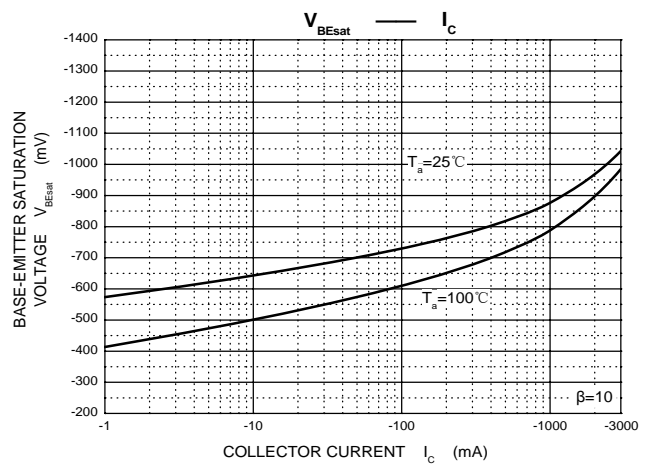
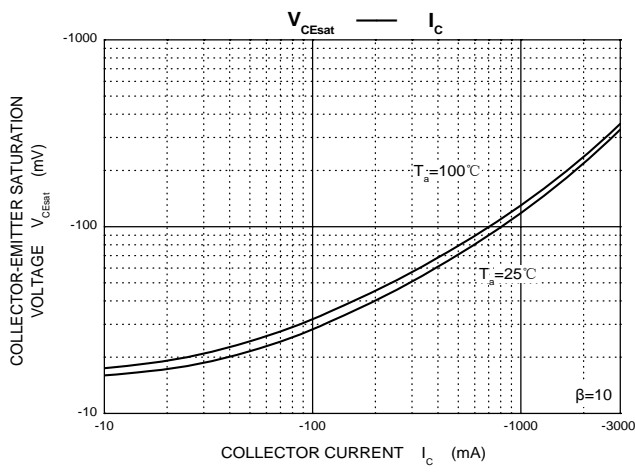
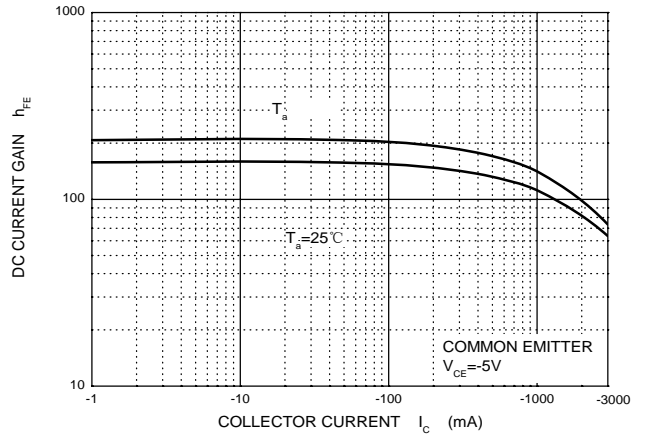
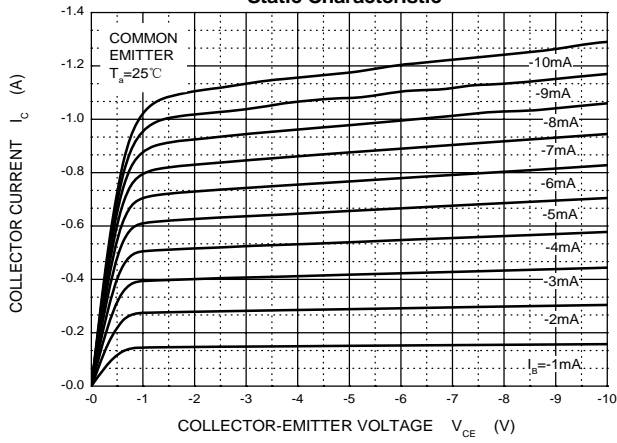
*Pulse test.

CLASSIFICATION OF $h_{FE(1)}$

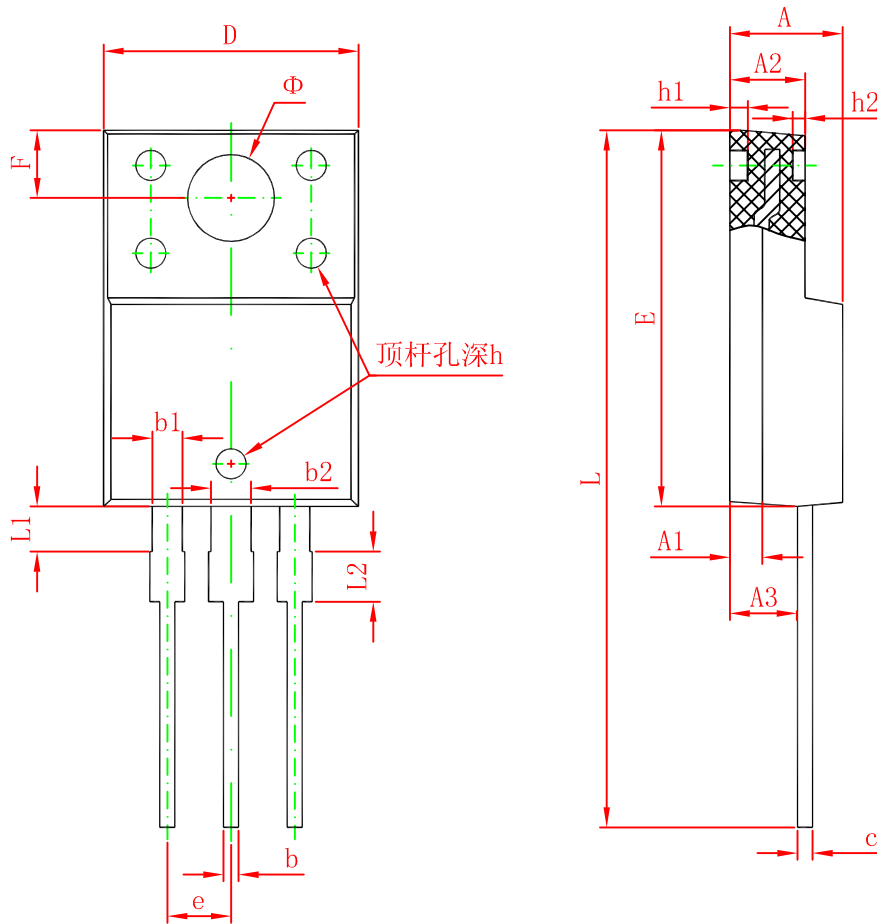
Rank	O	Y
Range	60-120	100-200

Typical Characteristics

Static Characteristic



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