

NPN Silicon Epitaxial Planar Transistor

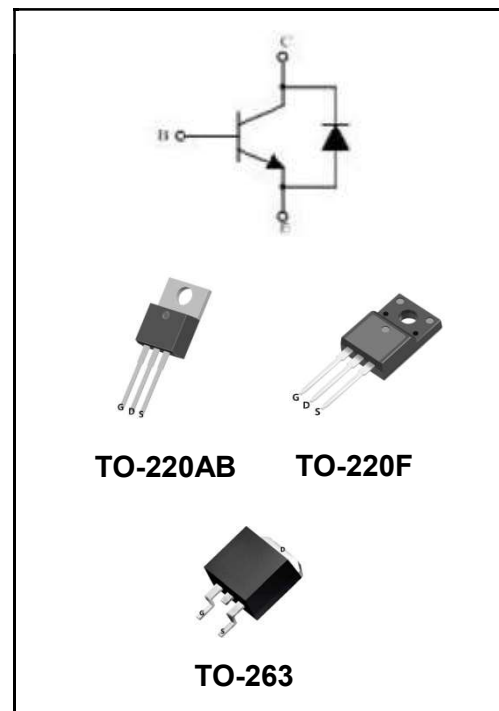
Features

- ♦ High voltage
- ♦ High speed switching



Mechanical Data

- ♦ Case: Molded plastic
- ♦ Polarity: As marked
- ♦ Mounting Position: Any
- ♦ Molded Plastic: UL Flammability Classification Rating 94V-0
- ♦ Lead free in compliance with EU RoHS 2011/65/EU directive
- ♦ Solder bath temperature 275°C maximum, 10s per JESD22-106



Product Specification Classification

Part Number	Package	Marking	Pack
YFW13005AT	TO-220AB	YFW 13005AT XXXXX	1000PCS/Tape
YFW13005AF	TO-220F(0.5mm)	YFW 13005AF XXXXX	1000PCS/Tape
YFW13005AS	TO-263	YFW 13005AS XXXXX	800PCS/Tape

Maximum Ratings At Ta=25°C Unless Otherwise Specified

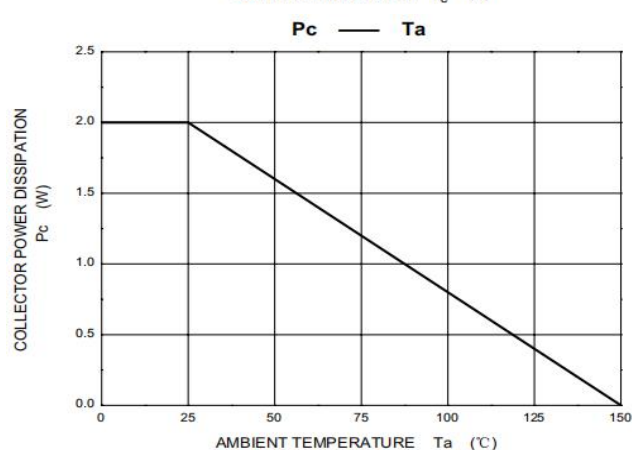
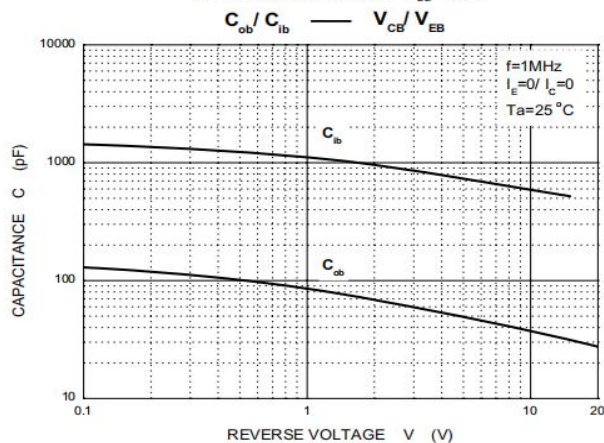
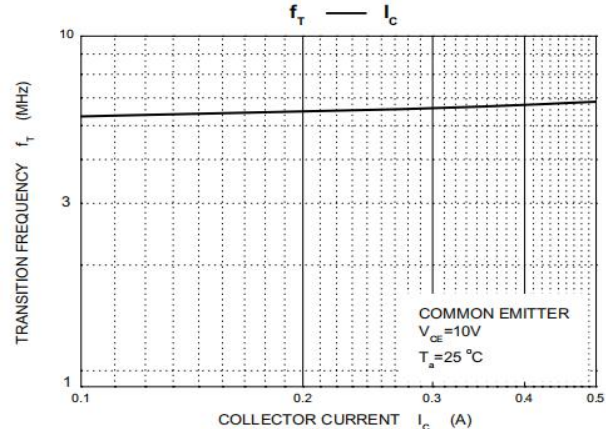
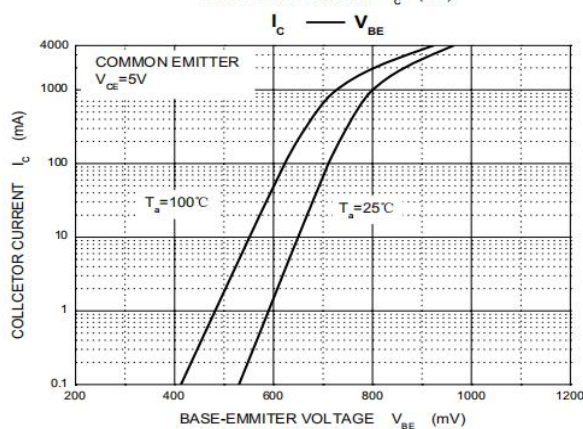
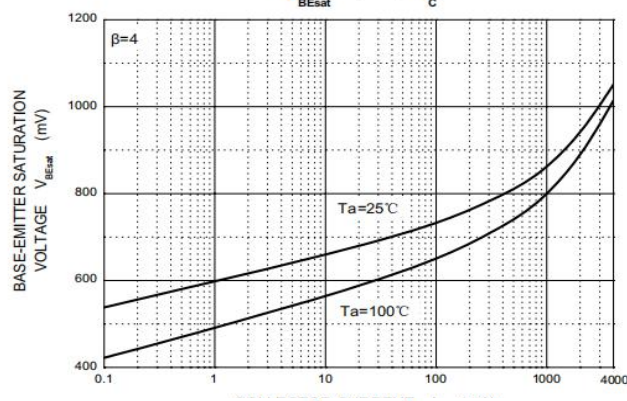
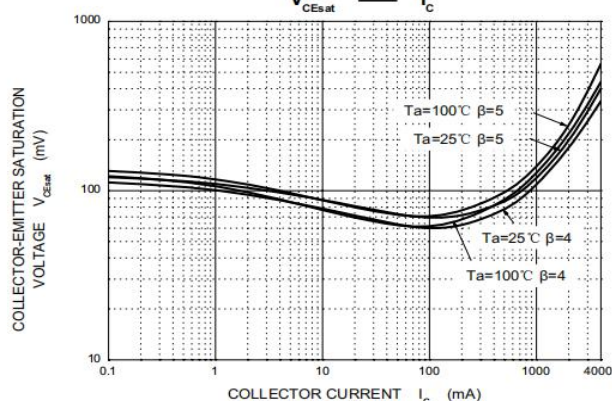
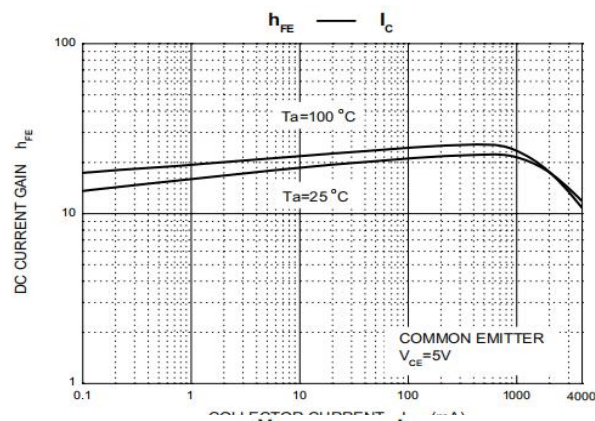
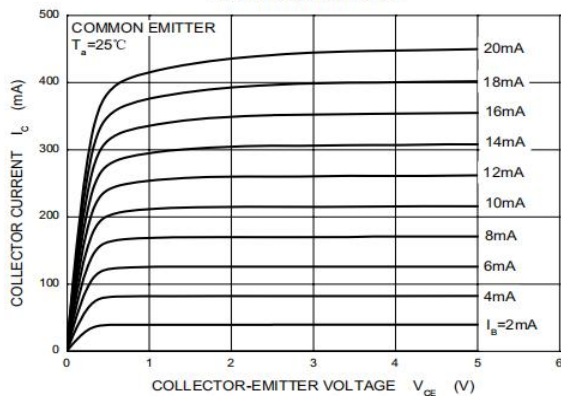
Characteristics	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	700	V
Collector Emitter Voltage	V_{CEO}	400	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current	I_C	4	A
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	°C/W
Power Dissipation (Tc = 25 °C) Superimposed on Rated Load (JEDEC method)	P_{tot}	2	W
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ A}$	h_{FE}	15	-	35	-
Collector Base Cutoff Current at $V_{CB} = 700\text{ V}$	I_{CBO}	-	-	10	μA
Collector Emitter Cutoff Current at $V_{CE} = 400\text{ V}$	I_{CEO}	-	-	10	μA
Emitter Base Cutoff Current at $V_{EB} = 7\text{ V}$	I_{EBO}	-	-	10	μA
Collector Emitter Saturation Voltage at $I_C = 2\text{ A}$, $I_B = 0.4\text{ A}$	$V_{CE(sat)}$	-	-	1	V
Base Emitter Saturation Voltage at $I_C = 4\text{ A}$, $V_{CE} = 1\text{ V}$	$V_{BE(sat)}$	-	-	0.8	V
Transition Frequency at $V_{CE}=10\text{ V}$, $I_C=500\text{ mA}$, $f=1\text{ MHz}$	f_T	4	-	-	MHZ

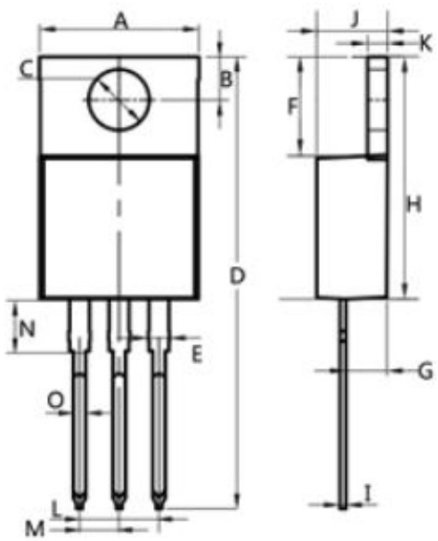
Ratings And Characteristic Curves

Static Characteristic

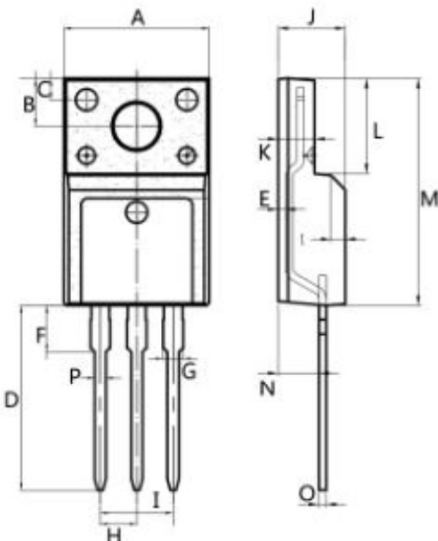


Package Outline Dimensions millimeters

TO-220AB

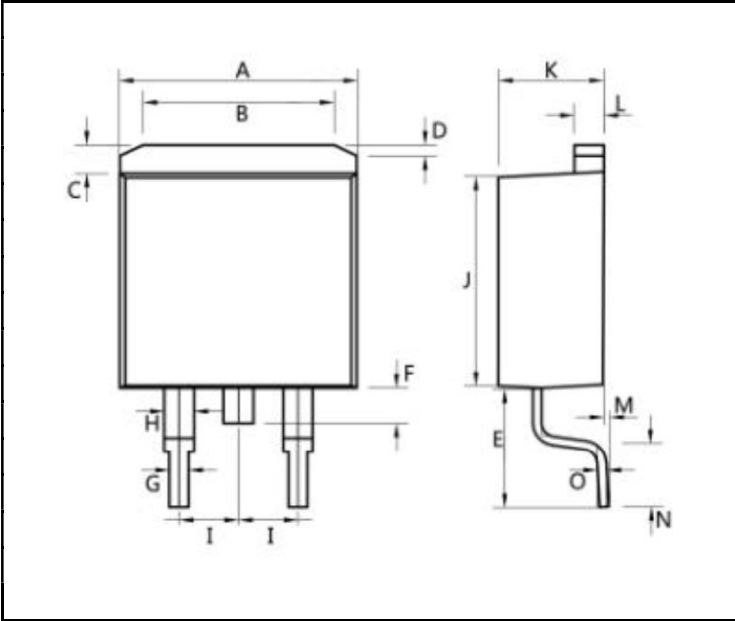
	Dim.	Min.	Max.
	A	10.15	10.35
	B	2.65	2.95
	C	3.70	3.90
	D	28.5	29.5
	E	1.30	1.45
	F	6.35	6.55
	G	2.9	3.3
	H	15.0	16.0
	I	0.38	0.42
	J	4.45	4.55
	K	1.25	1.35
	L	Typ 5.08	
	M	Typ 2.54	
	N	3.1	3.3
	O	0.76	0.84
All Dimensions in millimeter			

TO-220F

	Dim.	Min.	Max.
	A	9.95	10.25
	B	2.95	3.25
	C	1.25	1.45
	D	12.95	13.25
	E	0.50	0.65
	F	3.1	3.3
	G	1.30	1.45
	H	Typ 2.54	
	I	Typ 5.08	
	J	4.60	4.75
	K	2.50	2.65
	L	6.35	6.55
	M	15.4	16.0
	N	2.75	3.05
	O	0.48	0.52
	P	0.76	0.84
All Dimensions in millimeter			

Package Outline Dimensions millimeters

TO-263

	Dim.	Min.	Max.
	A	10.1	10.2
	B	7.4	7.6
	C	1.3	1.5
	D	0.55	0.75
	E	5.0	6.0
	F	1.4	1.6
	G	0.78	0.86
	H	1.2	1.3
	I	Typ2.54	
	J	8.4	8.6
	K	4.45	4.55
	L	1.25	1.35
	M	0.02	0.1
	N	2.4	2.8
	O	0.36	0.40
All Dimensions in millimeter			