

NPN Silicon Epitaxial Planar Transistor

Features

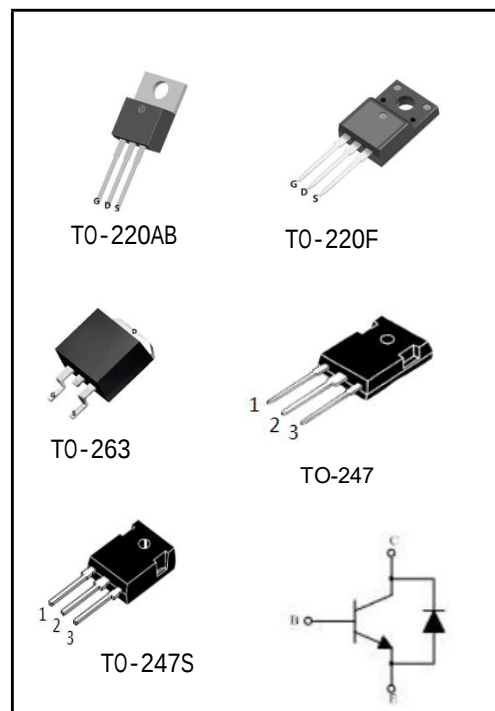
- High voltage
- High speed switching

APPLICATIONS

- ELECTRONIC TRANSFORMER
- SWITCH MODE POWER SUPPLY

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
YFW13009AT	TO-220AB	YFW 13009AT XXXXX	1000PCS/Box
YFW13009AF	TO-220F	YFW 13009AF XXXXX	1000PCS/Box
YFW13009AS	TO-263	YFW 13009AS XXXXX	800PCS/Reel
YFW13009AS-G	TO-263	YFW 13009AS XXXXX	50PCS/Tube
YFW13009PT	TO-247	YFW 13009PT XXXXX	1000PCS/Box
YFW13009PTS	TO-247S	YFW 13009PT XXXXX	1000PCS/Box

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value			Units
		220AB/263	220F	247	
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	12			A
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	1.56			°C/W
Power Dissipation (Tc = 25 °C) Superimposed on Rated Load (JEDEC method)	P_{tot}	3			W
Operating Temperature Range	T_J	150			°C
Storage Temperature Range	T_{STG}	-55 to +150°C			°C

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
DC Current Gain	at $V_{CE} = 5V, I_C = 3A$	h_{FE}	8	-	40	-
Collector Base Cutoff Current	at $V_{CB} = 700V$	I_{CBO}	-	-	100	μA
Collector Emitter Cutoff Current	at $V_{CE} = 400V$	I_{CEO}	-	-	100	μA
Emitter Base Cutoff Current	at $V_{EB} = 9V$	I_{EBO}	-	-	100	μA
Collector Emitter Saturation Voltage	at $I_C = 5A, I_B = 1A$	$V_{CE(sat)}$	-	-	1	V
Base Emitter Saturation Voltage	at $I_C = 4A, V_{CE} = 1V$	$V_{BE(sat)}$	-	-	1.6	V
Transition Frequency	at $V_{CE}=10V, I_C=500mA, f=1MHz$	f_T	4	-	-	MHZ

Ratings And Characteristic Curves

Fig1 SOA (DC)

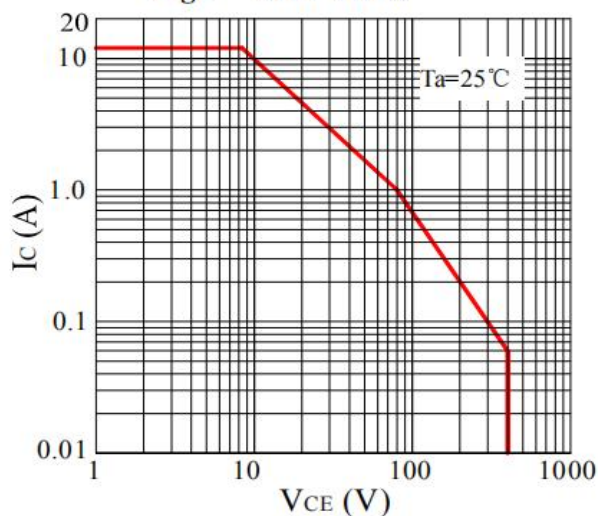


Fig2 $P_{tot} - T$

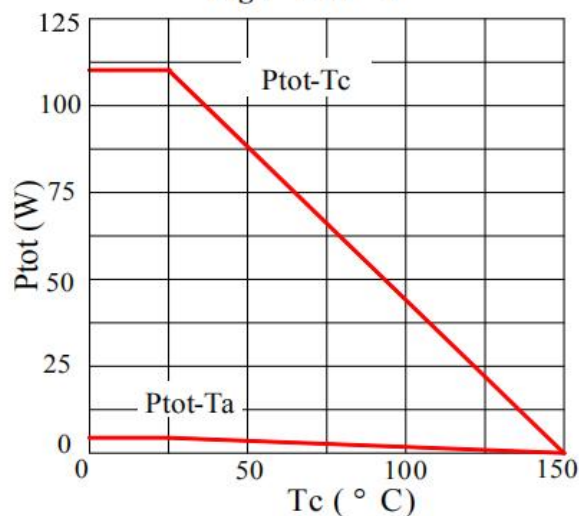


Fig3 Static Characteristic

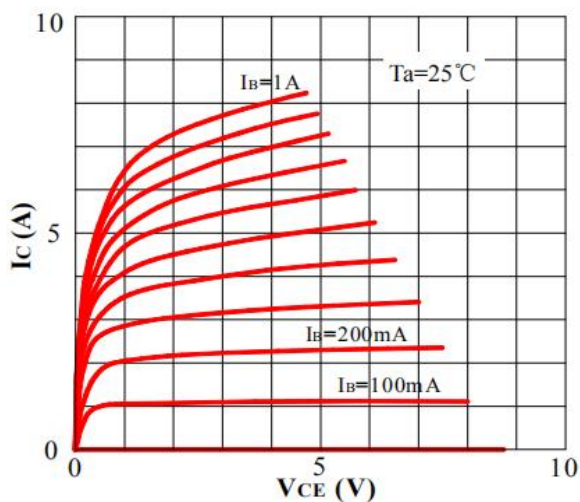
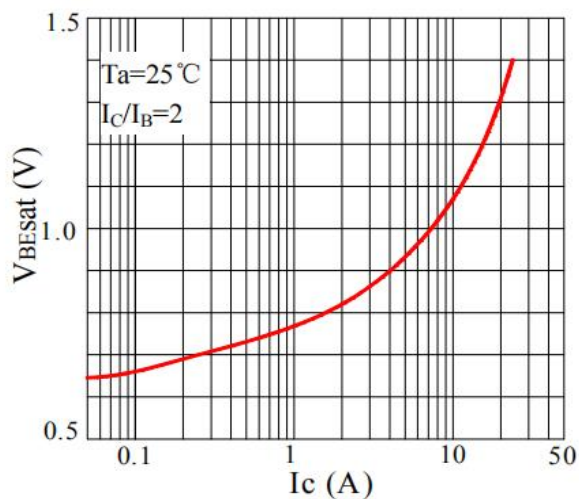
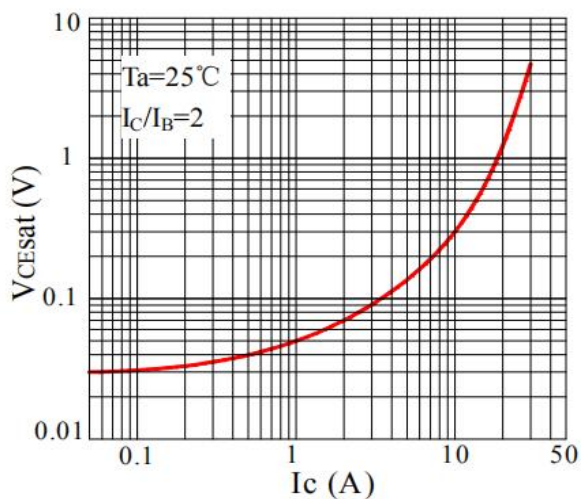
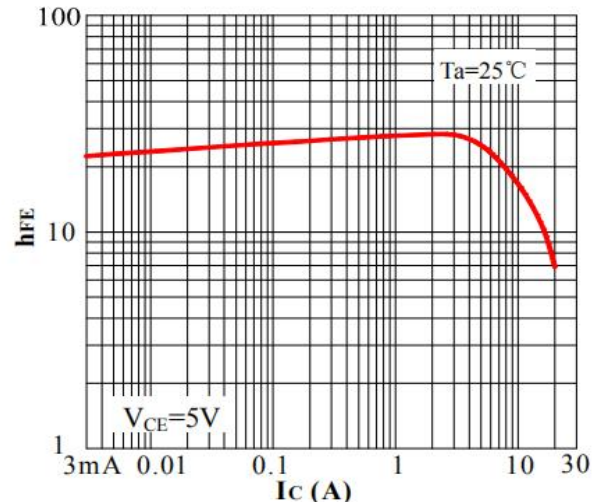
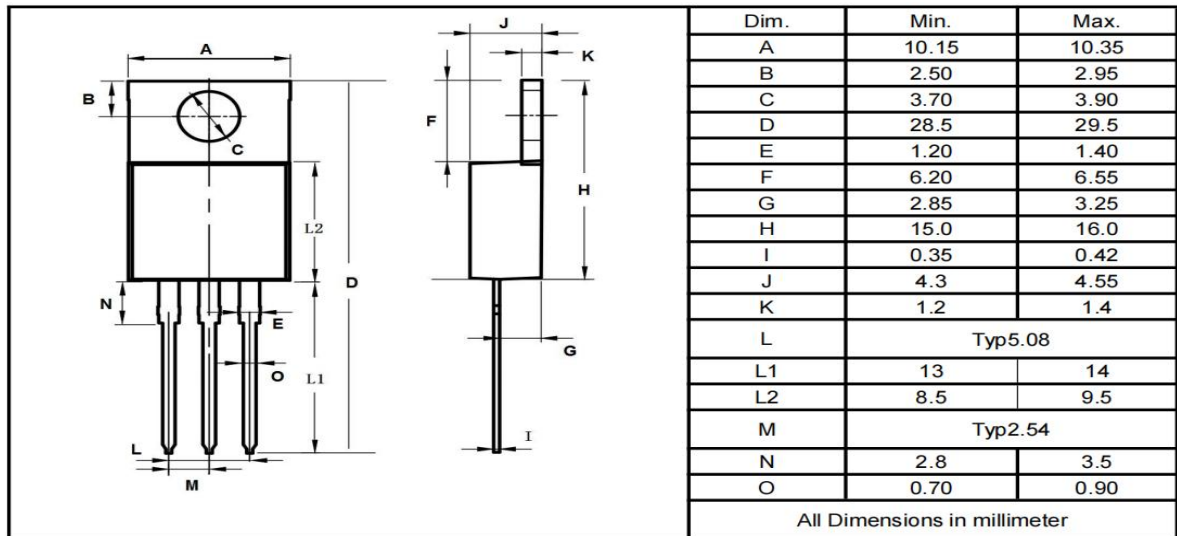


Fig4 $h_{FE} - I_C$

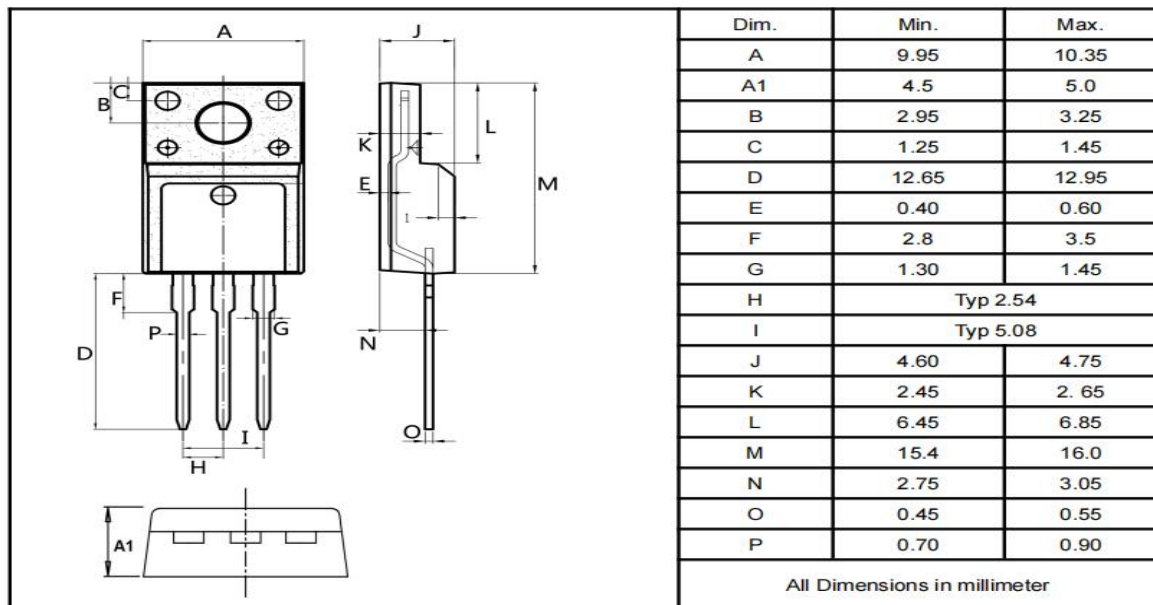


Package Outline Dimensions millimeters

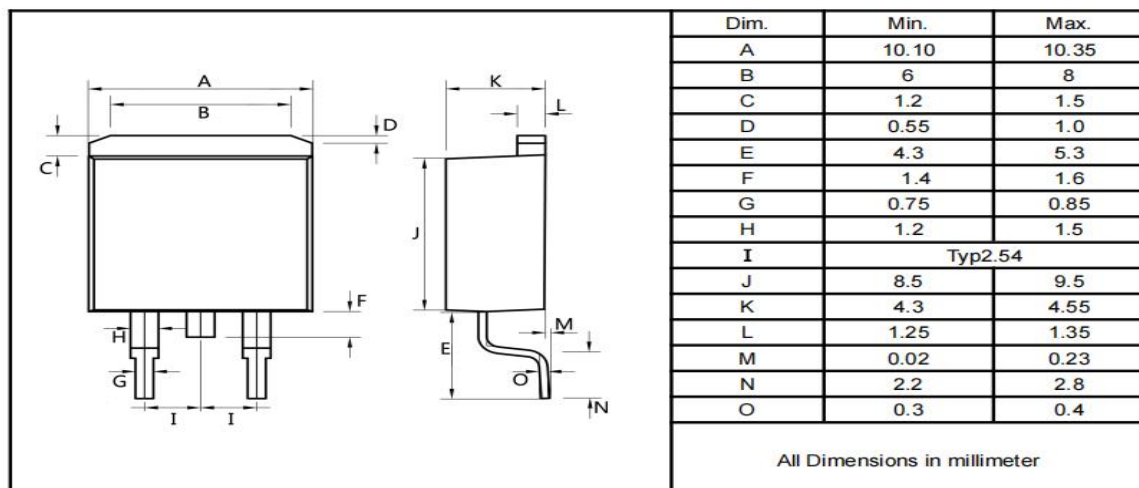
TO-220AB



TO-220F

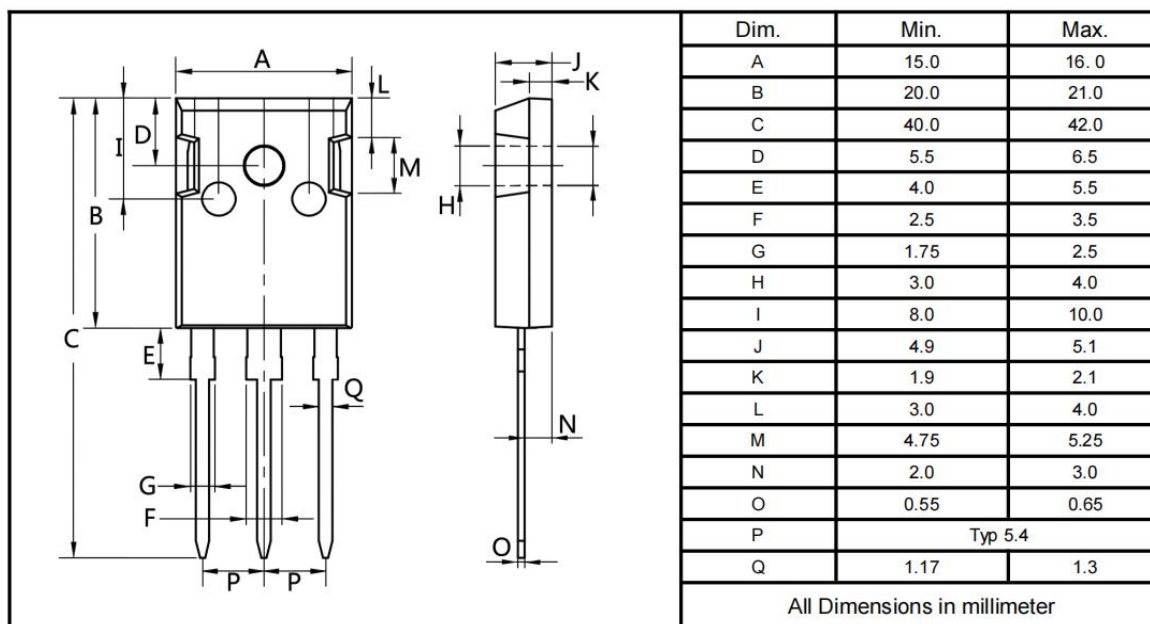


TO-263



Package Outline Dimensions millimeters

TO-247



TO-247S

