

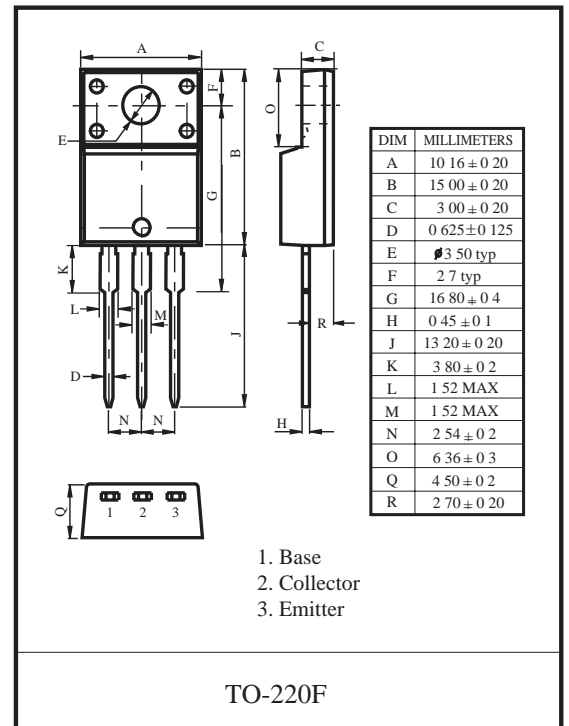
FTD1408 TRANSISTOR (NPN)

FEATURES

- Low Frequency Amplifier
- Medium Speed Switching

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	80	V
V _{CE0}	Collector-Emitter Voltage	80	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current	4	A
P _C	Collector Power Dissipation	2	W
R _{θJA}	Thermal Resistance From Junction To Ambient	62.5	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C



ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA, I _E =0	80			V
Collector-emitter breakdown voltage	V _{(BR)CEO} *	I _C =50mA, I _B =0	80			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =100μA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =80V, I _E =0			30	μA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			100	μA
DC current gain	h _{FE(1)}	V _{CE} =5V, I _C =0.5A	40		240	
	h _{FE(2)}	V _{CE} =5V, I _C =3A	15			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =3A, I _B =0.3A			1.5	V
Base-emitter voltage	V _{BE}	V _{CE} =5V, I _C =3A			1.5	V
Transition frequency	f _T	V _{CE} =5V, I _C =0.5A		8		MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz		90		pF

*Pulse test: pulse width ≤300μs, duty cycle ≤ 2.0%.

CLASSIFICATION OF h_{FE(1)}

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

Typical Characteristics

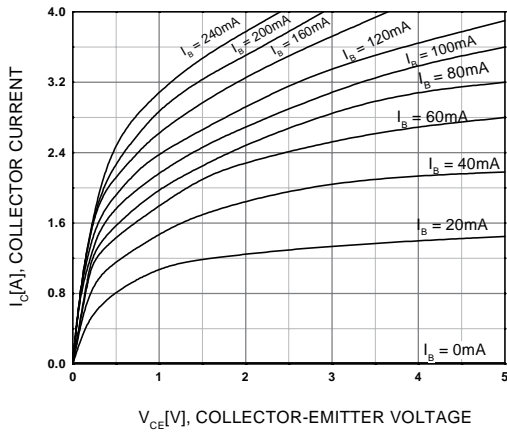


Figure 1. Static Characteristic

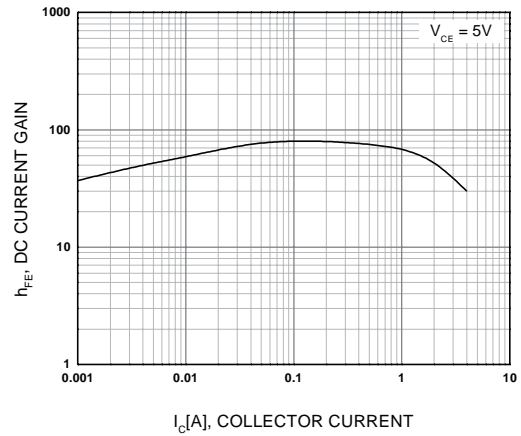


Figure 2. DC current Gain

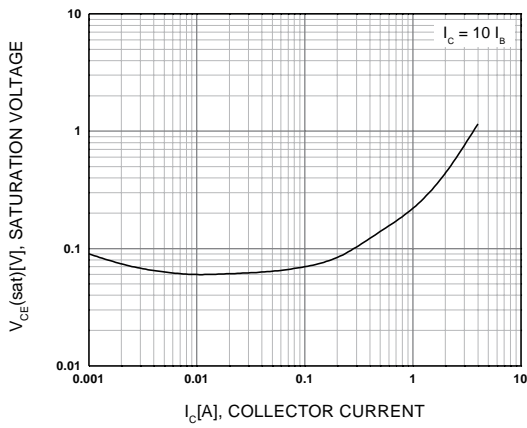


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

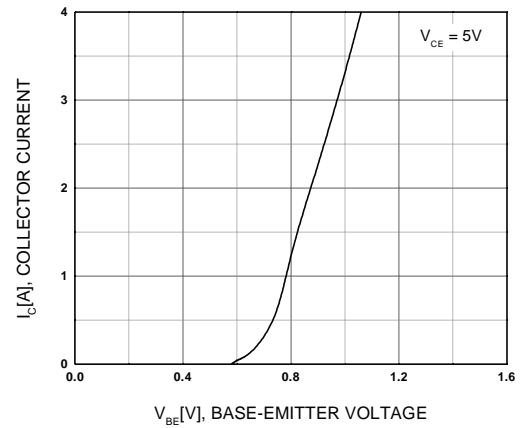


Figure 4. Collector Output Capacitance

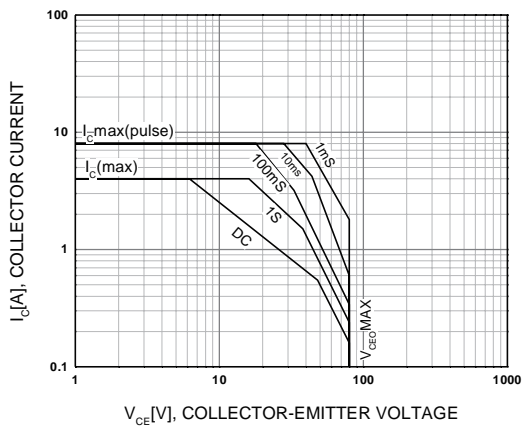


Figure 5. Safe Operating Area

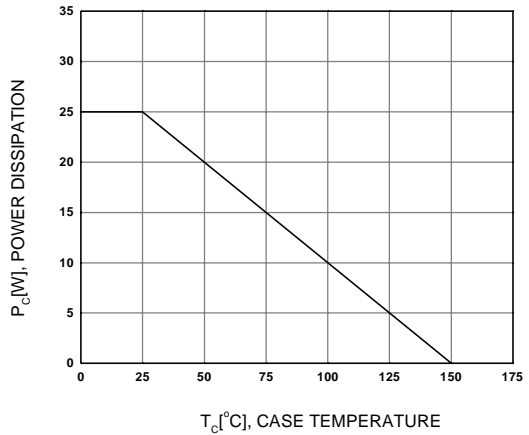


Figure 6. Power Derating