

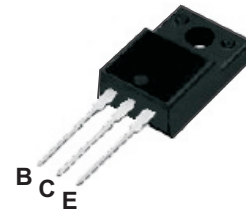
High Frequency PNP Power Transistor -1A/-230V/20W

FEATURES

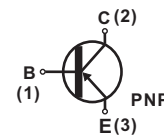
- High transition frequency:
 $f_T = 70\text{MHz}$ (typ.)
- Complementary to 2SC4793AF
- TO-220F package which can be installed to the heat sink with one screw

APPLICATIONS

- Power amplifier
- Driver stage amplifier



TO-220F
(2SA1837AF)



ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise specified)

SYMBOL	PARAMETER	TEST CONDITIONS	VALUE	UNIT
V_{CBO}	Collector to base voltage		-230	V
V_{CEO}	Collector to emitter voltage	$I_B = 0$	-230	
V_{EBO}	Emitter to base voltage	$I_C = 0$	-5	
I_C	Collector current-continuous		-1	A
$I_{CM}(I_{cp})$	Peak collector current	$t_p < 5\text{ ms}$	-2	
I_B	Base Current		-0.1	
P_C	Collector power dissipation	$T_C = 25^\circ\text{C}$	20	W
		$T_a = 25^\circ\text{C}$	2.0	
T_J	Junction temperature		150	$^\circ\text{C}$
T_{STG}	Storage temperature		-55 to 150	

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

SYMBOL	PARAMETER	TEST CONDITIONS	Min.	Typ.	Max.	UNIT
I_{CBO}	Collector cutoff current	$V_{CBO} = -230\text{V}, I_E = 0$ $T_C = 25^\circ\text{C}$			-1.0	μA
		$T_C = 125^\circ\text{C}$			-100	
I_{EBO}	Emitter cutoff current	$V_{EBO} = -5\text{V}, I_C = 0$			-1.0	
$V_{(BR)CEO}$	Collector to emitter breakdown voltage	$I_B = 0, I_C = -100\text{mA}$	-230			V
$V_{CE(sat)*}$	Collector to emitter saturation voltage	$I_C = -0.5\text{A}, I_B = -50\text{mA}$			-1.5	
V_{BE}	Base to emitter voltage	$I_C = -0.5\text{A}, V_{CE} = -5\text{V}$			-1.0	
h_{FE*}	Forward current transfer ratio (DC current gain)	$I_C = -0.1\text{A}, V_{CE} = -5\text{V}$	100		320	
f_T	Transition frequency	$V_{CE} = -10\text{V}, I_C = -100\text{mA}$		70		MHz
C_{ob}	Collector output capacitance	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		30		pF

*Pulsed: Pulse duration= 300 μs , duty cycle= 1.5%.

Fig.1 I_C - V_{CE} Characteristics

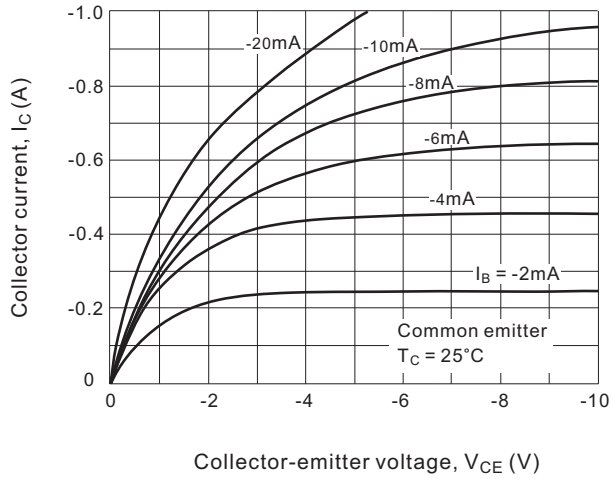


Fig.2 I_C - V_{BE} Temperature characteristics

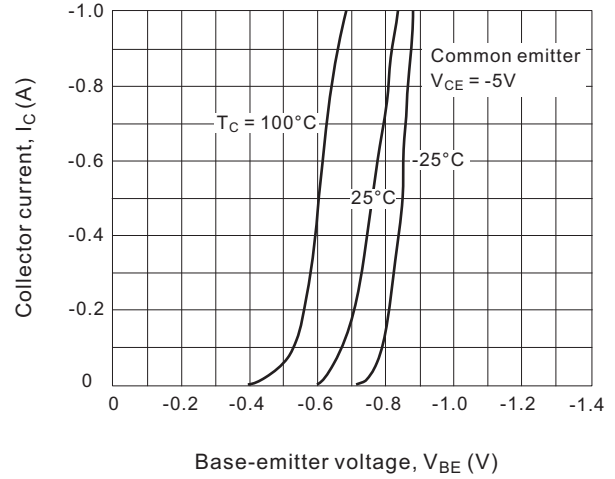


Fig.3 h_{FE} - I_C Characteristics

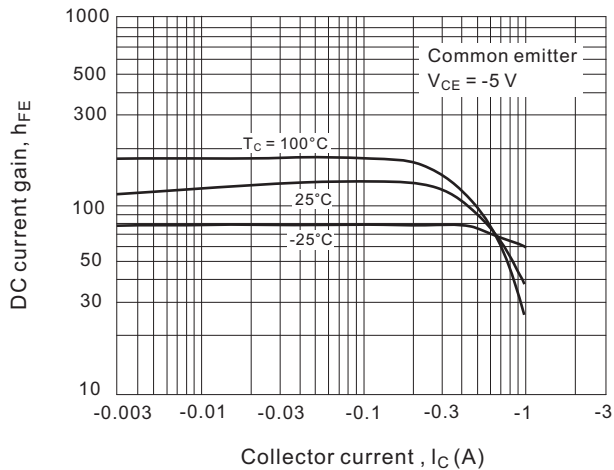


Fig.4 $V_{CE(sat)}$ - I_C Temperature characteristics

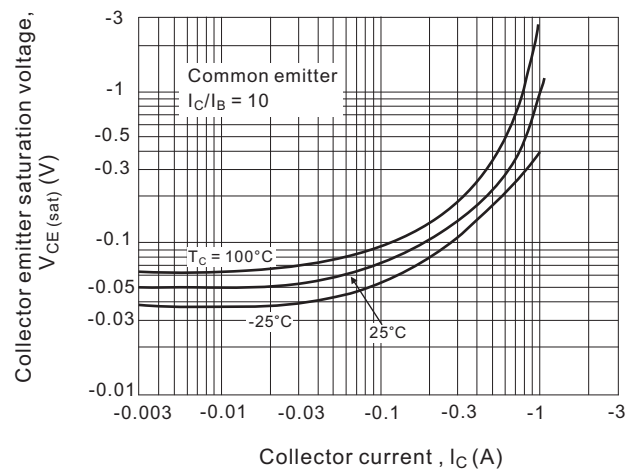


Fig.5 f_T - I_C Characteristics

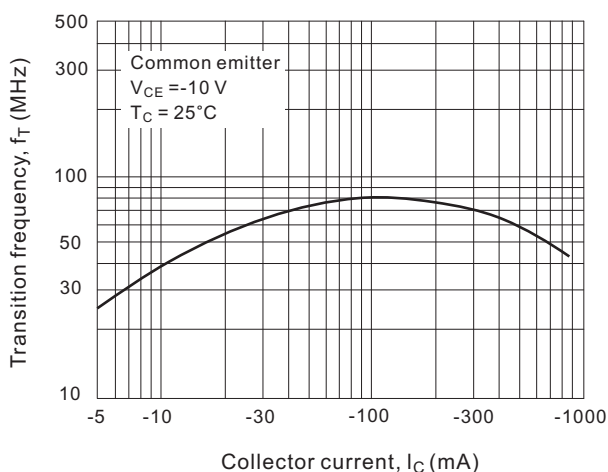
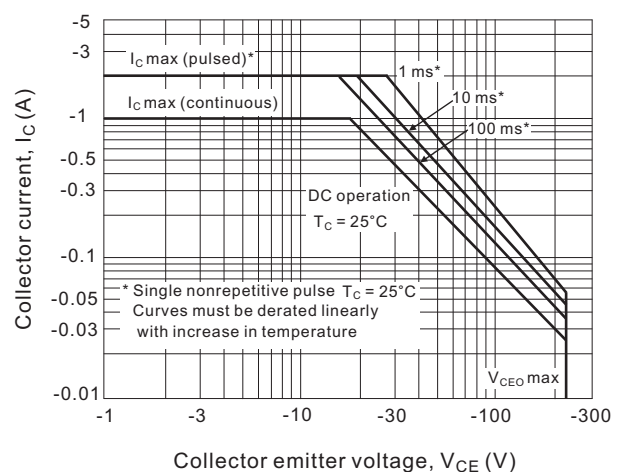
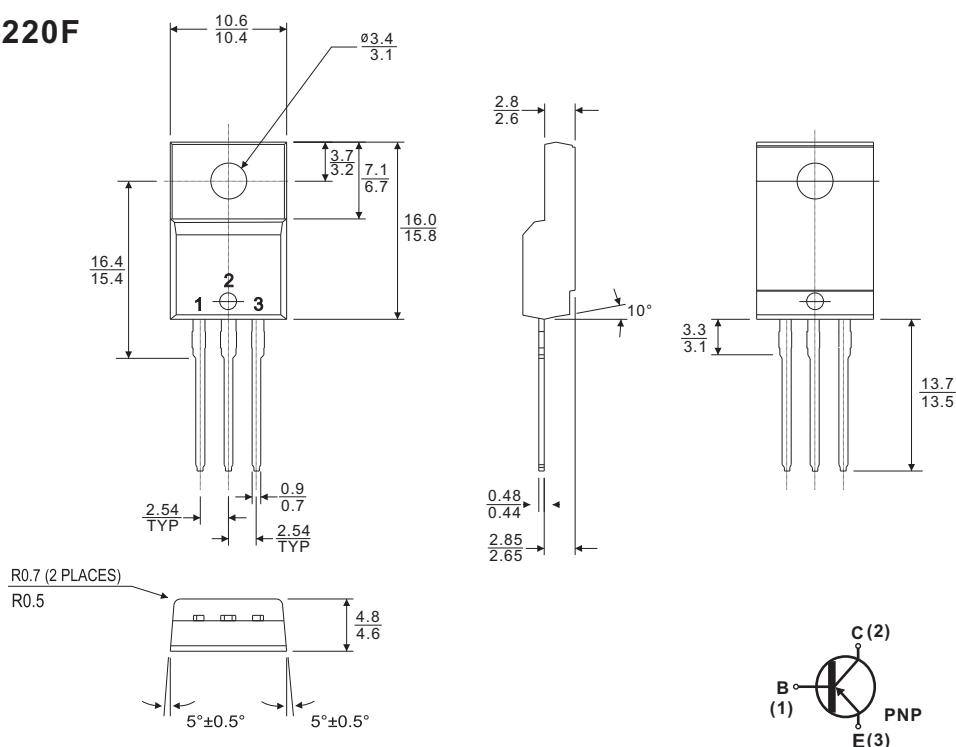


Fig.6 Safe operating area (SOA)



Case Style

TO-220F



All dimensions in millimeters