

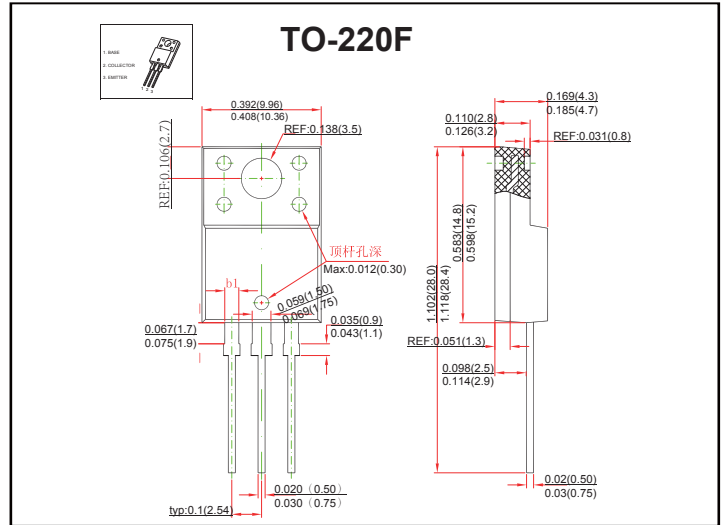
TO-220F Plastic-Encapsulate Transistors

FEATURES

- High Forward Current Transfer Ratio h_{FE} which
- Has Satisfactory Linearity
- Low Collector to Emitter Saturation Voltage $V_{CE(sat)}$
- Allowing Supply with the Radial Taping
- TRANSISTOR (NPN)

MECHANICAL DATA

- Case style: TO-220F molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (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	6	V
I_C	Collector Current -Continuous	3	A
P_C	Collector Power Dissipation	2	W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55-150	°C

PACKAGE INFORMATION

Device	Package	Shipping
2SD2137	TO-220F	50/Tape&

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1mA, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=30mA, I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1mA, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$			100	μA
Collector cut-off current	I_{CEO}	$V_{CE}=30V, I_B=0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6V, I_C=0$			100	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=4V, I_C=1A$	70		320	
	$h_{FE(2)}$	$V_{CE}=4V, I_C=3A$	10			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3A, I_B=375mA$			1.2	V
Base-emitter voltage	V_{BE}	$V_{CE}=4V, I_C=3A$			1.8	V
Transition frequency	f_T	$V_{CE}=5V, I_C=0.2A, f=10MHz$		30		MHz
Switch time	Turn-on time	t_{on}		0.3		μs
	Storage time	t_{stg}	$V_{CC}=50V, I_C=1A, I_{B1}=-I_{B2}=0.1A$	2.5		μs
	Fall time	t_f		0.2		μs

CLASSIFICATION OF $h_{FE(1)}$

Rank	Q	P	O
Range	70-150	120-250	160-320