Silicon NPN Power Transistors MJF15030

DESCRIPTION

·With TO-220F package
·Complement to type MJF15031
·High transition frequency
·DC current gain specified to 4.0 amperes
h_{FE} = 40 (Min) @ I_C = 3.0 Adc
h_{FE} = 20 (Min) @ I_C = 4.0 Adc

APPLICATIONS

·Designed for general-purpose amplifier and switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

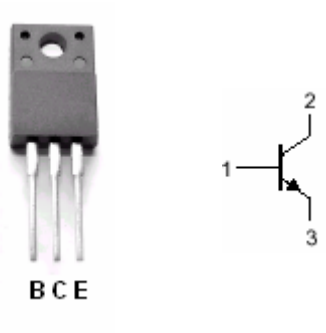

Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Tc=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	150	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current (DC)		8	A
I_{CM}	Collector current-Peak		16	A
I_B	Base current		2	A
P_D	Total power dissipation	T_a=25□	2	W
		T_C=25□	36	
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-65~150	□

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}C}$	Thermal resistance ; junction to case	3.5	□/W
$R_{th\ j\text{-}A}$	Thermal resistance , junction to ambient	62.5	□/W

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	I_C=10mA; I_B=0	150			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=1A ;I_B=0.1A			0.5	V
V_{BE}	Base-emitter on voltage	I_C=1A ; V_{CE}=2V			1.0	V
I_{CBO}	Collector cut-off current	V_{CB}=150V; I_E=0			10	μA
I_{CEO}	Collector cut-off current	V_{CE}=150V; I_B=0			10	μA
I_{EBO}	Emitter cut-off current	V_{EB}=5V; I_C=0			10	μA
h_{FE-1}	DC current gain	I_C=0.1A ; V_{CE}=2V	40			
h_{FE-2}	DC current gain	I_C=2A ; V_{CE}=2V	40			
h_{FE-3}	DC current gain	I_C=3A ; V_{CE}=2V	40			
h_{FE-4}	DC current gain	I_C=4A ; V_{CE}=2V	20			
f_T	Transition frequency	I_C=0.5A;V_{CE}=10V;f=10MHz	30			MHz

PACKAGE OUTLINE

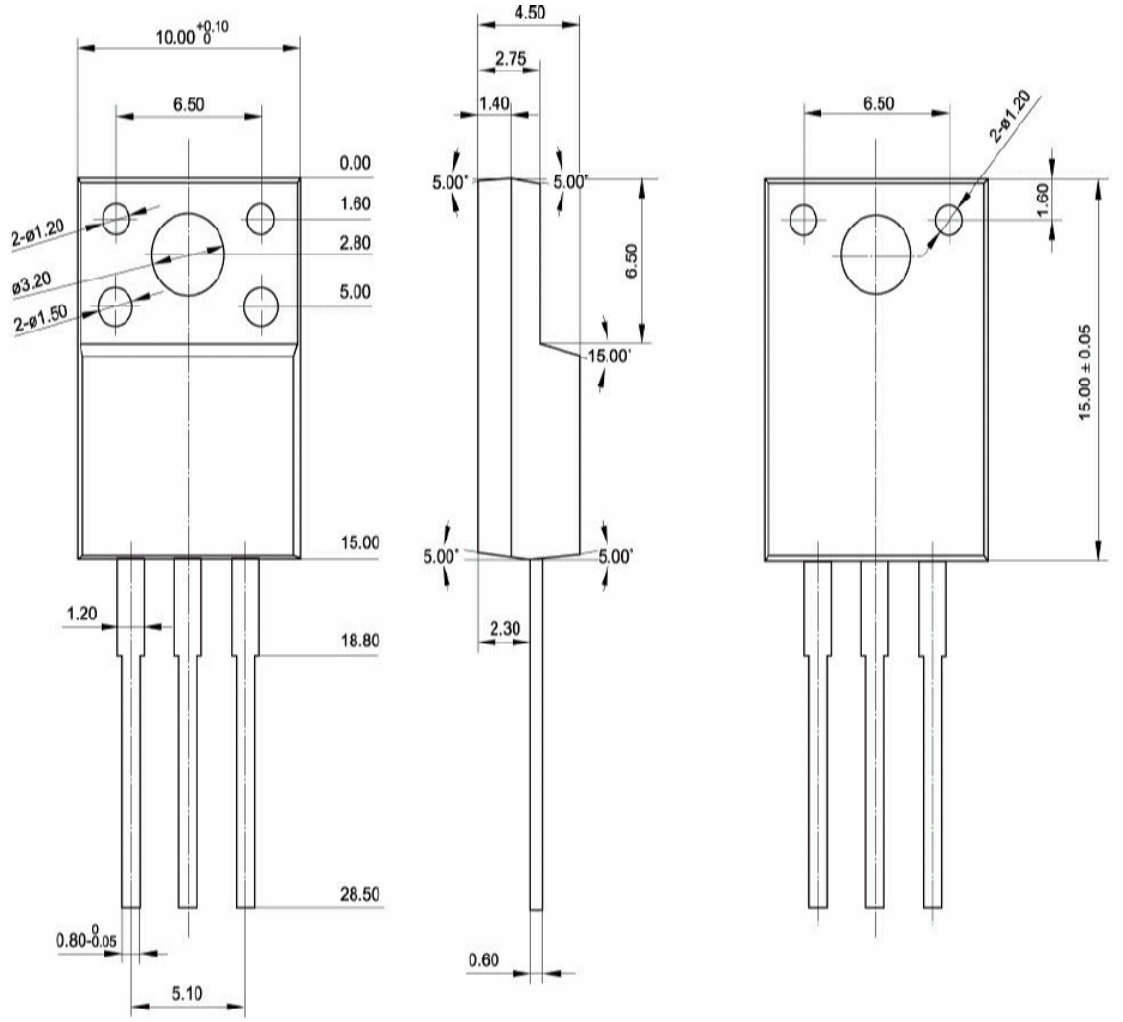

Fig.2 Outline dimensions (unindicated tolerance: ±0.10mm)

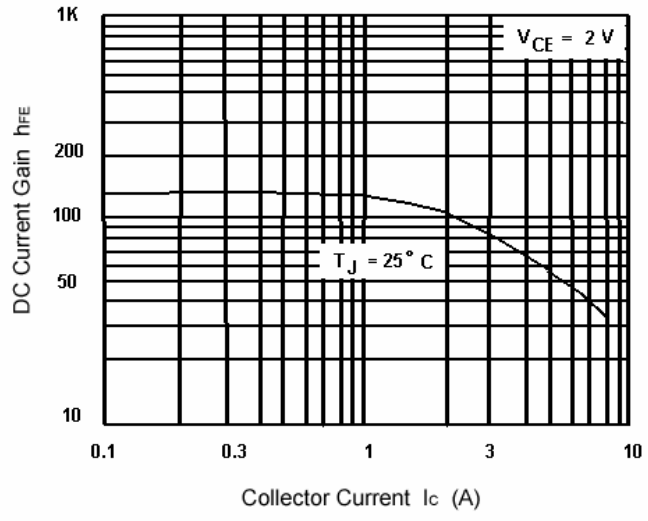

Fig.3 DC current Gain

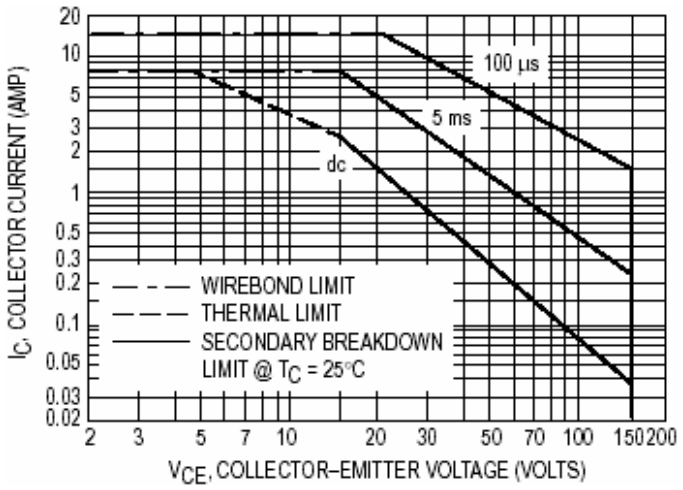

Fig.4 Safe Operating Area

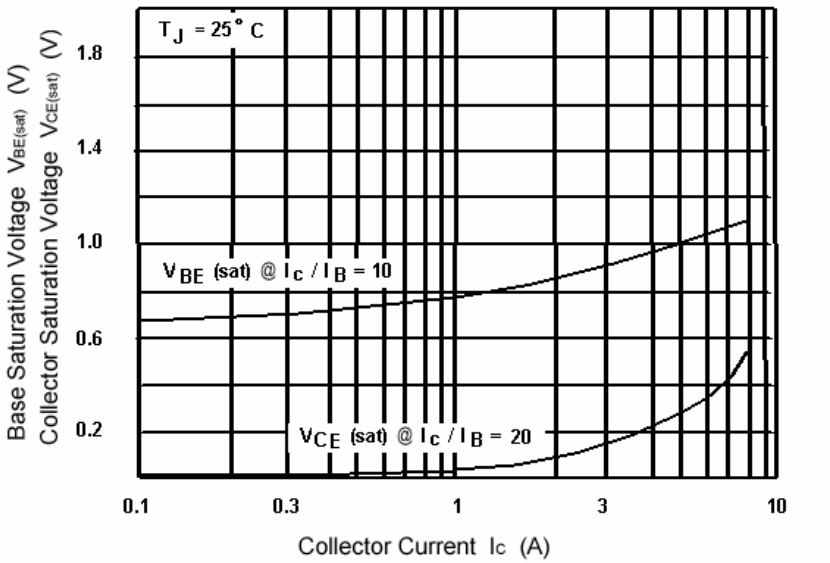

Fig.5 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage