Silicon NPN Power Transistors BUT11F BUT11AF

DESCRIPTION

·With TO-220Fa package
·High voltage ,high speed

APPLICATIONS

·Converters
·Inverters
·Switching regulators
·Motor control systems

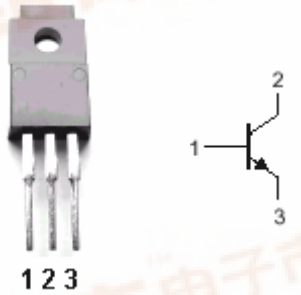

Fig.1 simplified outline (TO-220Fa) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings (Tc=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BUT11F	Open emitter	850	V
		BUT11AF		1000	
V_{CEO}	Collector-emitter voltage	BUT11F	Open base	400	V
		BUT11AF		450	
V_{EBO}	Emitter-base voltage		Open collector	9	V
I_C	Collector current			5	A
I_{CM}	Collector current-peak			10	A
I_B	Base current			2	A
I_{BM}	Base current-peak			4	A
P_{tot}	Total power dissipation		T_C=25□	40	W
T_j	Junction temperature			150	□
T_{stg}	Storage temperature			-65~150	□

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j\text{-}C}$	Thermal resistance from junction to case	3.125	K/W

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CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	BUT11F	I_C=0.1A; I_B=0	400			V
		BUT11AF		450			
V_{CEsat}	Collector-emitter saturation voltage	BUT11F	I_C=3A; I_B=0.6A			1.5	V
		BUT11AF	I_C=2.5A; I_B=0.5A				
V_{BEsat}	Base-emitter saturation voltage	BUT11F	I_C=3A; I_B=0.6A			1.3	V
		BUT11AF	I_C=2.5A; I_B=0.5A				
I_{CES}	Collector cut-off current	BUT11F	V_{CE}=850V ;V_{BE}=0			1.0	mA
		BUT11AF	V_{CE}=1000V ;V_{BE}=0				
I_{EBO}	Emitter cut-off current		V_{EB}=9V; I_C=0			10	mA
h_{FE-1}	DC current gain		I_C=5mA ; V_{CE}=5V	10		35	
h_{FE-2}	DC current gain		I_C=0.5A ; V_{CE}=5V	10		35	

Switching times resistive load

t_{on}	Turn-on time	I_C=2.5A; I_{B1}=- I_{B2}=0.5A V_{CC}=250V;R_L=100Ω			1.0	μs
t_s	Storage time				4.0	μs
t_f	Fall time				0.8	μs

PACKAGE OUTLINE

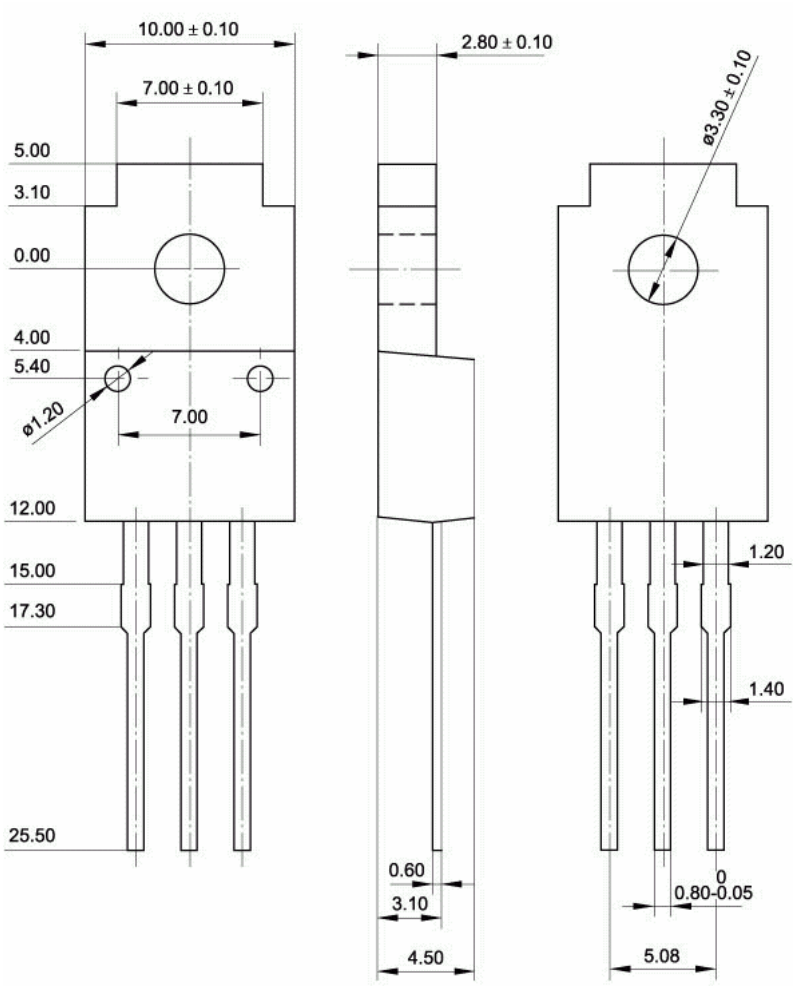

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)