Silicon NPN Power Transistors BUT12 BUT12A

DESCRIPTION

- With TO-220C package
- High voltage ,high speed

APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor control systems

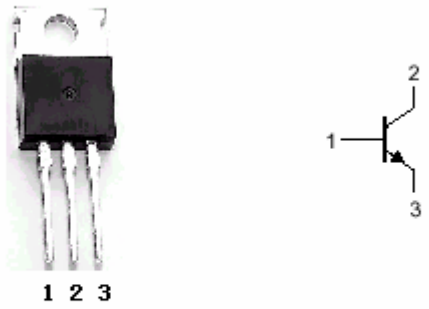

Fig.1 simplified outline (TO-220C) and symbol

PINNING

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

Absolute maximum ratings (Tc=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BUT12	Open emitter	850	V
		BUT12A		1000	
V_{CEO}	Collector-emitter voltage	BUT12	Open base	400	V
		BUT12A		450	
V_{EBO}	Emitter-base voltage		Open collector	9	V
I_C	Collector current			8	A
I_{CM}	Collector current-peak			20	A
I_B	Base current			4	A
I_{BM}	Base current-peak			6	a
P_{tot}	Total power dissipation		$T_{mb}\leq 25℃$	100	W
T_j	Junction temperature			150	℃
T_{stg}	Storage temperature			-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j\text{-}mb}$	Thermal resistance from junction to mounting base	1	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	BUT12	I_C=0.1A; I_B=0, L=25mH	400			V
		BUT12A		450			
V_{CEsat}	Collector-emitter saturation voltage	BUT12	I_C=6A; I_B=1.2A			1.5	V
		BUT12A	I_C=5A; I_B=1A				
V_{BEsat}	Base-emitter saturation voltage	BUT12	I_C=6A; I_B=1.2A			1.5	V
		BUT12A	I_C=5A; I_B=1A				
I_{CES}	Collector cut-off current		V_{CE}=Rated V_{CES} ;V_{BE}=0 Tj=125℃			1.0 3.0	mA
I_{EBO}	Emitter cut-off current		V_{EB}=9V; I_C=0			10	mA
h_{FE-1}	DC current gain		I_C=10mA ; V_{CE}=5V	10		35	
h_{FE-2}	DC current gain		I_C=1A ; V_{CE}=5V	10		35	

Switching times resistive load

t_{on}	Turn-on time	For BUT12 I_C=6A; I_{B1}=- I_{B2}=1.2A For BUT12A I_C=5A; I_{B1}=- I_{B2}=1A			1.0	μs
t_s	Storage time				4.0	μs
t_f	Fall time				0.8	μs

PACKAGE OUTLINE

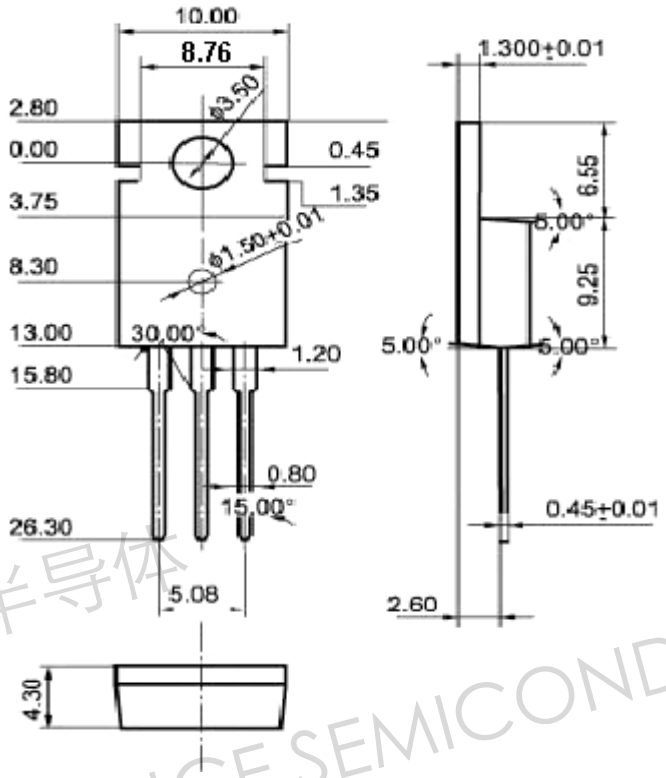

Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)