

isc Silicon NPN Power Transistor

BUT11A

DESCRIPTION

- High Voltage
- High Speed Switching

APPLICATIONS

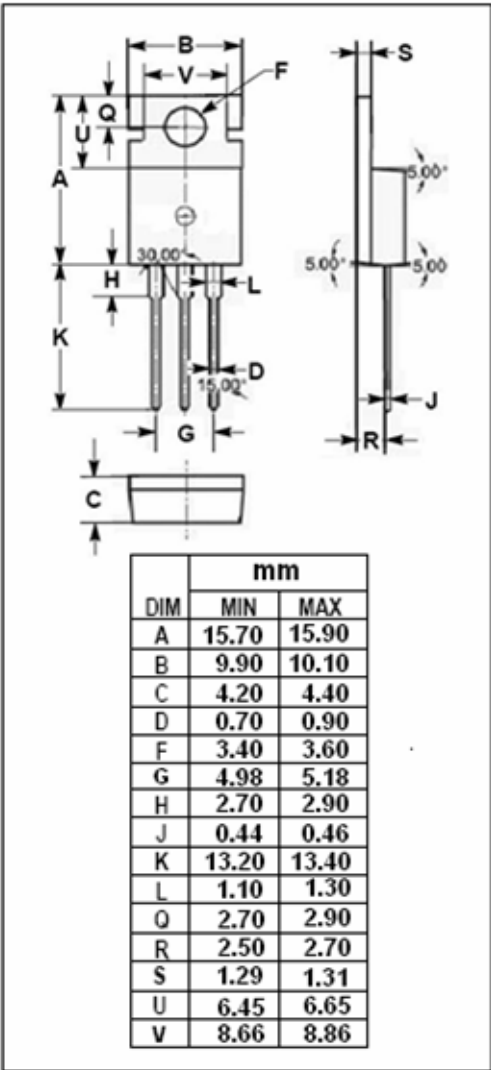
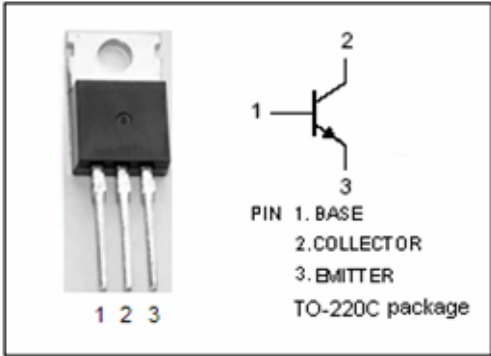
- Converters
- Inverters
- Switching regulators
- Motor control systems

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	1000	V
V _{CEO}	Collector-Emitter Voltage	450	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	5	A
I _{CM}	Collector Current-Peak	10	A
I _B	Base Current	2	A
P _C	Collector Power Dissipation @T _C =25°C	100	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.25	°C/W



ISC Silicon NPN Power Transistor**BUT11A****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

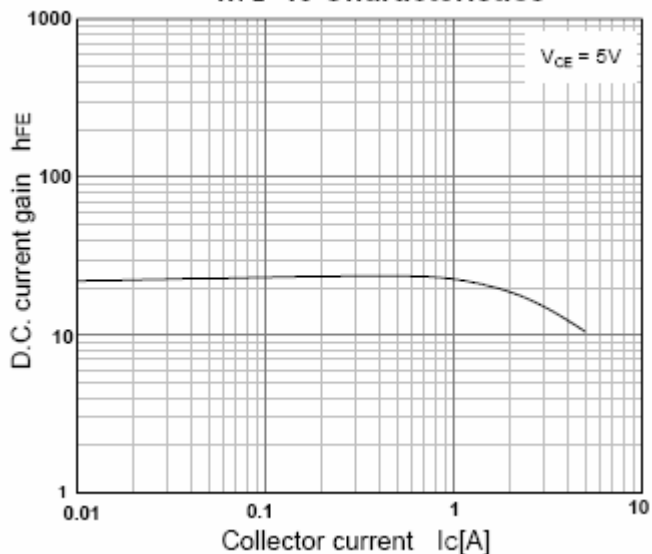
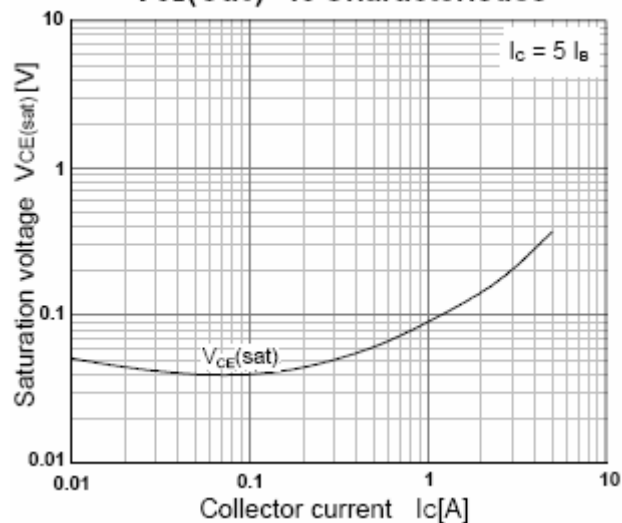
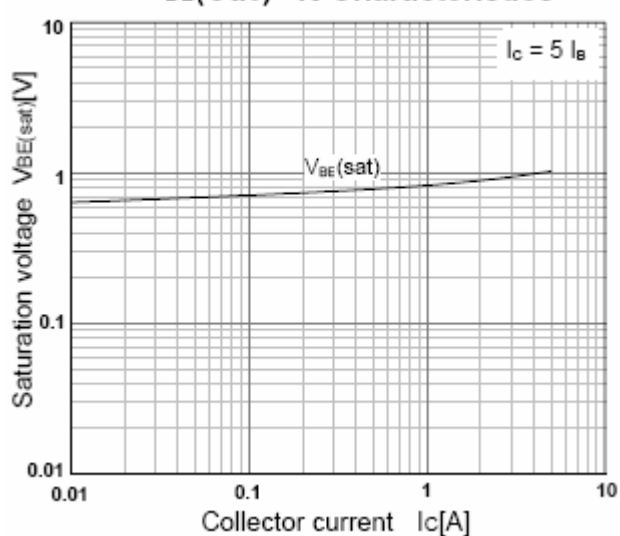
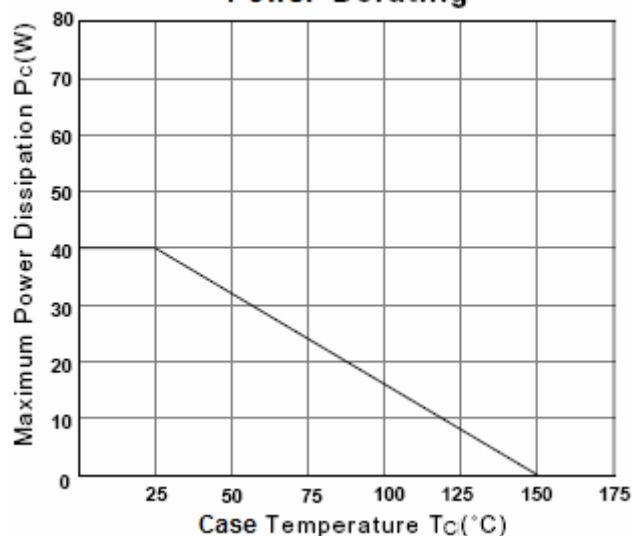
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 0.1A; I _B = 0, L= 25mH	450			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 2.5A; I _B = 0.5A			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 2.5A; I _B = 0.5A			1.3	V
I _{CES}	Collector Cutoff Current	V _{CE} =RatedV _{CES} ; V _{BE} = 0 V _{CE} =RatedV _{CES} ; V _{BE} = 0; T _C =125°C			1 2	mA
I _{EBO}	Emitter Cutoff 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			1.0	μ s
t _s	Storage Time				4.0	μ s
t _f	Fall Time				0.8	μ s

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 h_{FE} – I_C Characteristics **$V_{CE(sat)}$ – I_C Characteristics** **$V_{BE(sat)}$ – I_C Characteristics****Power Derating****Safe Operating Area**