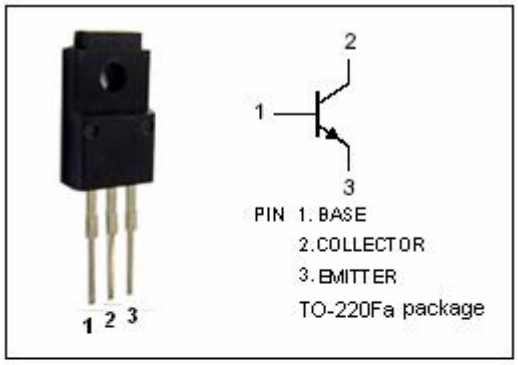
isc Silicon NPN Power Transistor — BUT11AF

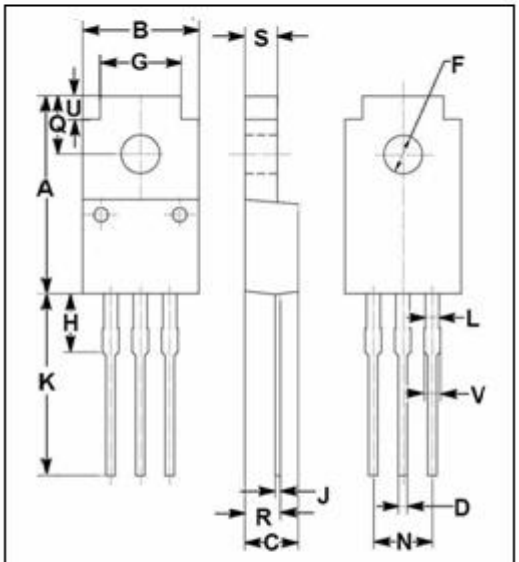
DESCRIPTION

- High Voltage
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor control systems



DIM	mm MIN	mm MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	3.80	4.20
J	0.45	0.75
K	13.35	13.80
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1000	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current	2	A
I_{BM}	Base Current-Peak	4	A
P_C	Collector Power Dissipation @T_C=25℃	40	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	3.125	K/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 50mA; I_B= 0	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}= 1000V ;V_{BE}= 0			1.0	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 V_{CC}= 250V;R_L= 100Ω			1.0	μs
t_s	Storage Time				4.0	μs
t_f	Fall Time				0.8	μs

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