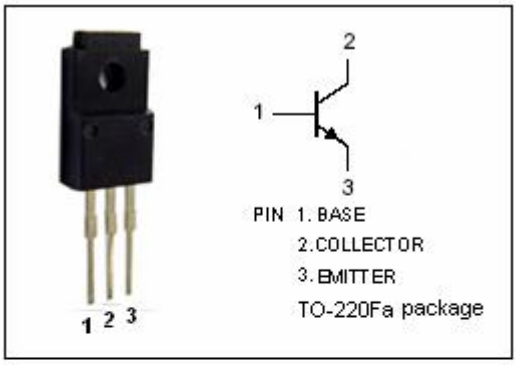
isc Silicon NPN Power Transistor — BUT56AF



DESCRIPTION

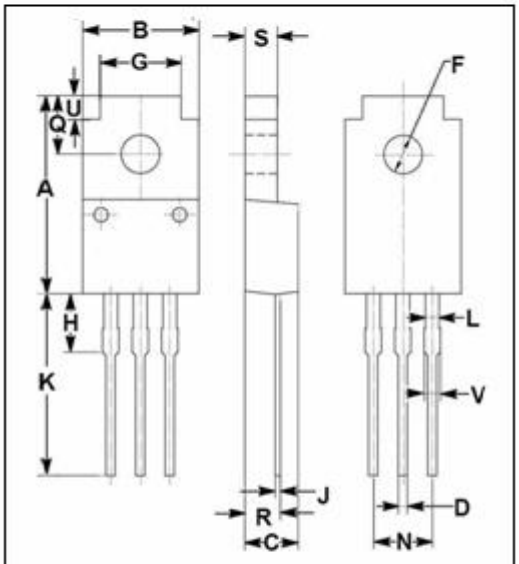
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 450V(Min.)
- High Speed Switching
- High Power Dissipation
- With TO-220Fa Package
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for switching mode power supply applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	1000	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	10	A
I_{BM}	Base Current-Peak	4	A
P_C	Collector Power Dissipation @T_C=25℃	50	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃



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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 50mA; I_B= 0	450			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 1mA; I_C= 0	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			2.0	V
I_{CES}	Collector Cutoff Current	V_{CE}=1000V; V_{BE}= 0 V_{CE}=1000V; V_{BE}= 0; T_C=150℃			1 2	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			0.1	mA
h_{FE-1}	DC Current Gain	I_C= 1A ; V_{CE}= 5V	15		45	
h_{FE-2}	DC Current Gain	I_C= 3A ; V_{CE}= 5V	4			
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A ; V_{CE}= 10V, f_{test}= 1MHz		10		MHz
Switching Times ;Resistive Load						
t_{off}	Turn-off Time	I_C=4A ;I_{B1}=-I_{B2}=1.25A t_p=20 μ s			4	μ s
t_f	Fall Time				1	μ s

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