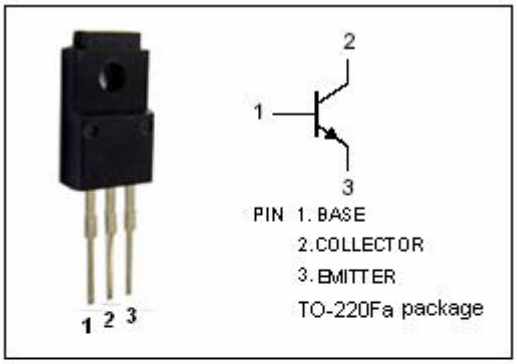
isc Silicon NPN Power Transistors — BU406F/407F

DESCRIPTION

- High Voltage
- Fast Switching Speed-
  : t_{off}= 0.75 μ s (Max)
- Low Saturation Voltage-
  : $V_{CE(sat)}$= 1.0V(Max)@ I_C= 5A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

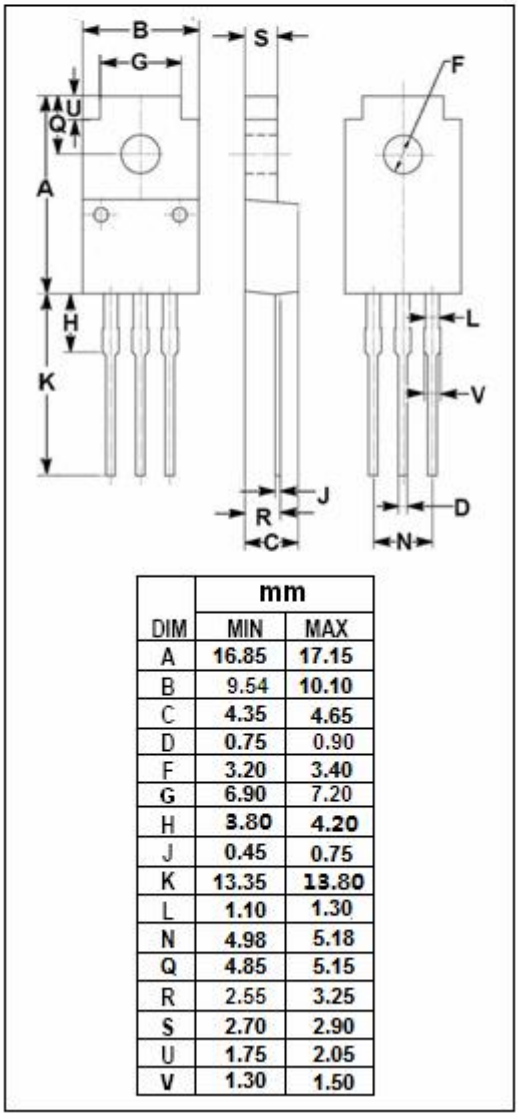
- Designed for use in converters, inverters, switching regulators and motor control systems etc.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CES}	Collector-Emitter Voltage V_{BE}=0	BU406F	400	V
		BU407F	330	
V_{CEO}	Collector-Emitter Voltage	BU406F	200	V
		BU407F	150	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current-Continuous		7	A
I_{CM}	Collector Current-Peak		15	A
I_B	Base Current-Continuous		4	A
I_{BM}	Base Current-Peak		6	A
P_C	Collector Power Dissipation @ T_C=25℃		18	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	7	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	55	℃/W



DIM	mm MIN	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
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BU406F	I_C= 50mA ; I_B= 0	200			V
		BU407F		150			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C= 5A; I_B= 0.5A			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		I_C= 5A; I_B= 0.5A			1.2	V
I_{CES}	Collector Cutoff Current		V_{CE}= V_{CESmax}; V_{BE}= 0			0.05 1	mA
I_{CES}	Collector Cutoff Current	BU406F	V_{CE}= 250V; V_{BE}= 0			0.1	mA
		BU407F	V_{CE}= 200V; V_{BE}= 0			0.1	
I_{EBO}	Emitter Cutoff Current		V_{EB}= 5V; I_C= 0			1	mA
h_{FE}	DC Current Gain		I_C= 2A; V_{CE}= 5V	40		120	
f_T	Current-Gain—Bandwidth Product		I_C= 0.5A ; V_{CE}= 10V	4			MHz
t_{off}	Turn-Off Time		I_C= 5A; I_{B1}= -I_{B2}= 0.5A			0.75	μs