

isc Silicon NPN Power Transistors

BU406F/407F

DESCRIPTION

- High Voltage
- Fast Switching Speed-
: $t_{off}=0.75\mu s$ (Max)
- Low Saturation Voltage-
: $V_{CE(sat)}=1.0V$ (Max)@ $I_C=5A$

APPLICATIONS

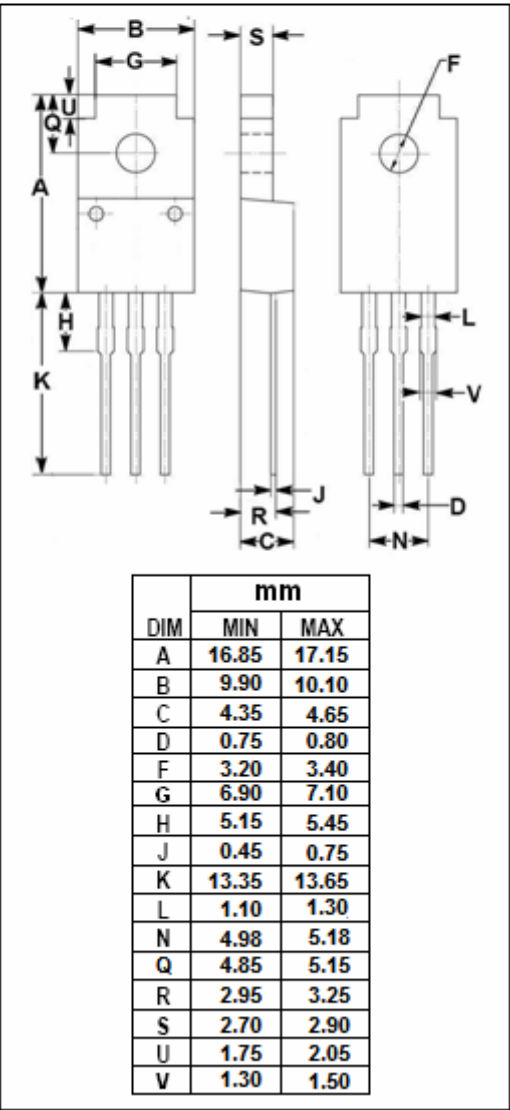
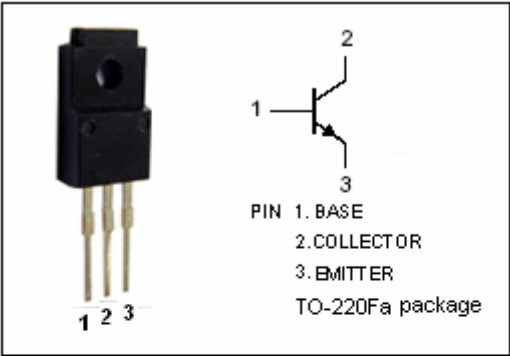
- Designed for use in converters, inverters, switching regulators and motor control systems etc.

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}C$)

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 @ $T_C=25^{\circ}C$	18	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	7	$^{\circ}C/W$
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient	55	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BU406F	$I_C=200\text{mA}$; $I_B=0$; $L=25\text{mH}$	200			V
		BU407F		150			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C=5\text{A}$; $I_B=0.5\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C=5\text{A}$; $I_B=0.5\text{A}$			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	$V_{CE}=250\text{V}$; $V_{BE}=0$ $V_{CE}=350\text{V}$; $V_{BE}=0$; $T_J=150^{\circ}\text{C}$			0.1 1	mA
		BU407F	$V_{CE}=200\text{V}$; $V_{BE}=0$ $V_{CE}=200\text{V}$; $V_{BE}=0$; $T_J=150^{\circ}\text{C}$			0.1 1	
I_{EBO}	Emitter Cutoff Current		$V_{EB}=5\text{V}$; $I_C=0$			1	mA
f_T	Current-Gain—Bandwidth Product		$I_C=0.5\text{A}$; $V_{CE}=10\text{V}$	4			MHz
t_{off}	Turn-Off Time		$I_C=5\text{A}$; $I_{B1}=-I_{B2}=0.5\text{A}$			0.75	μs