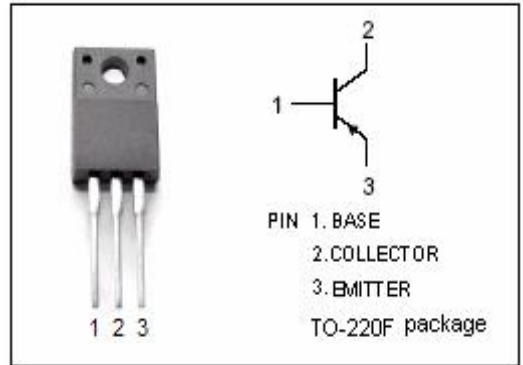


**isc Silicon NPN Power Transistors**
**BU406FI/407FI**
**DESCRIPTION**

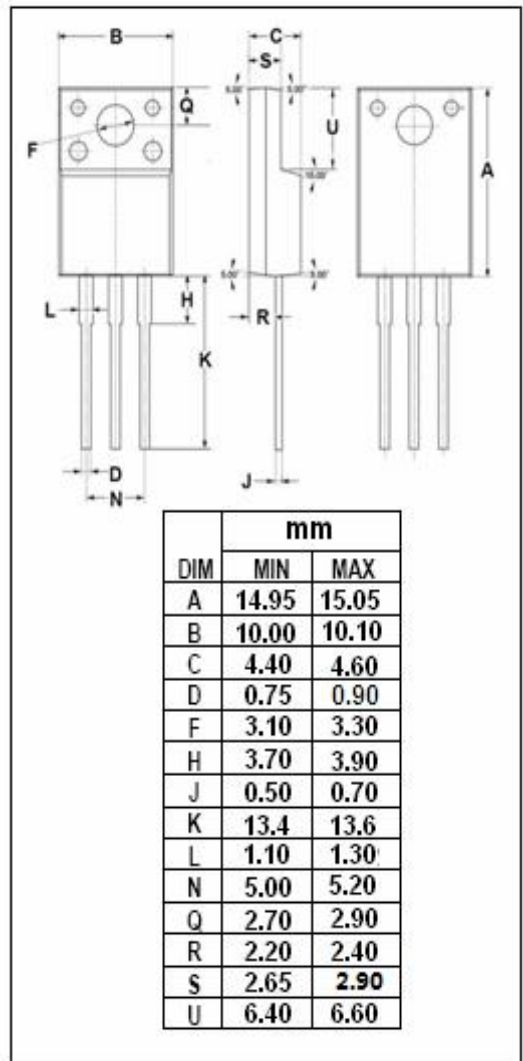
- High Voltage
- Low Saturation Voltage-  
:  $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C = 5A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

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


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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CES}$	Collector-Emitter Voltage	BU406FI	400	V
		BU407FI	330	
$V_{CEO}$	Collector-Emitter Voltage	BU406FI	200	V
		BU407FI	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 @ $T_C=25^\circ\text{C}$	18	W	
$T_J$	Junction Temperature	150	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$	


**THERMAL CHARACTERISTICS**

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

**isc Silicon NPN Power Transistors**
**BU406FI/407FI**
**ELECTRICAL CHARACTERISTICS**
 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BU406FI	$I_C=50\text{mA}; I_B=0$	200			V
		BU407FI		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 1.0	mA
$I_{CES}$	Collector Cutoff Current	BU406FI	$V_{CE}=250\text{V}; V_{BE}=0$			0.1	mA
		BU407FI	$V_{CE}=200\text{V}; V_{BE}=0$			0.1	
$I_{EBO}$	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$			1.0	mA
$h_{FE}$	DC Current Gain		$I_C=2\text{A}; V_{CE}=5\text{V}$	40		120	
$f_T$	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	$\mu\text{s}$

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