

**isc Silicon NPN Power Transistor**
**BU304F/305F**
**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 300V(\text{Min})$ - BU304F  
400V(Min)- BU305F
- Collector Current-4A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

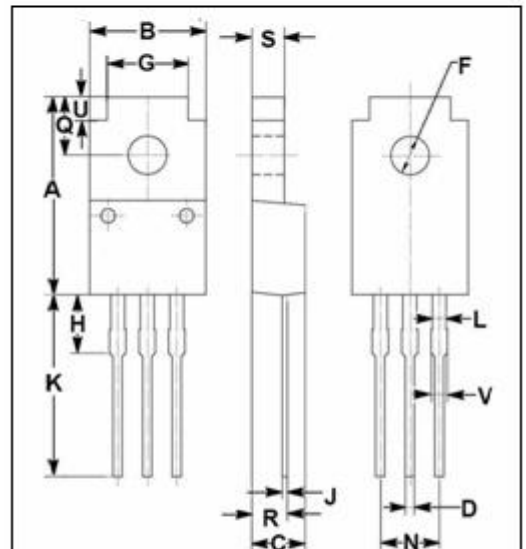
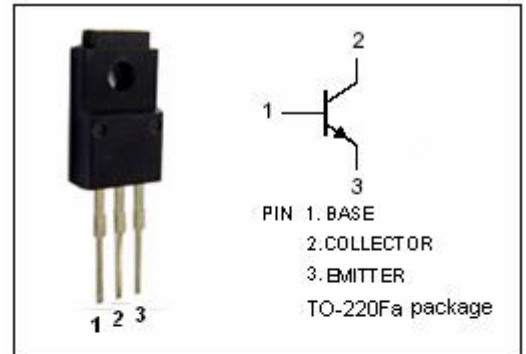
- Designed for use in switching regulators, inverters, motor controls, solenoid/relay drivers and deflection circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CBO}$	Collector-Base Voltage	BU304F	600	V
		BU305F	700	
$V_{CEO}$	Collector-Emitter Voltage	BU304F	300	V
		BU305F	400	
$V_{EBO}$	Emitter-Base Voltage	9	V	
$I_C$	Collector Current-Continuous	4	A	
$I_{CM}$	Collector Current-Peak	16	A	
$I_B$	Base Current	4	A	
$I_{BM}$	Base Current-Peak	8	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	6.12	$^\circ\text{C}/\text{W}$



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

**isc Silicon NPN Power Transistor**
**BU306F/307F**
**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 50mA ; I <sub>B</sub> = 0	300			V
			400			
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.4A			1.0	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 1A			1.5	V
V <sub>CE(sat)-3</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 2A			3.0	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.4A			1.2	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 1A			1.6	V
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 9V; I <sub>C</sub> =0			1	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 5V	15		50	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 5V	8		40	
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 5A ; V <sub>CE</sub> = 5V	6		30	
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V		80		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 10V, f <sub>test</sub> = 1.0MHz		4		MHz

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