

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

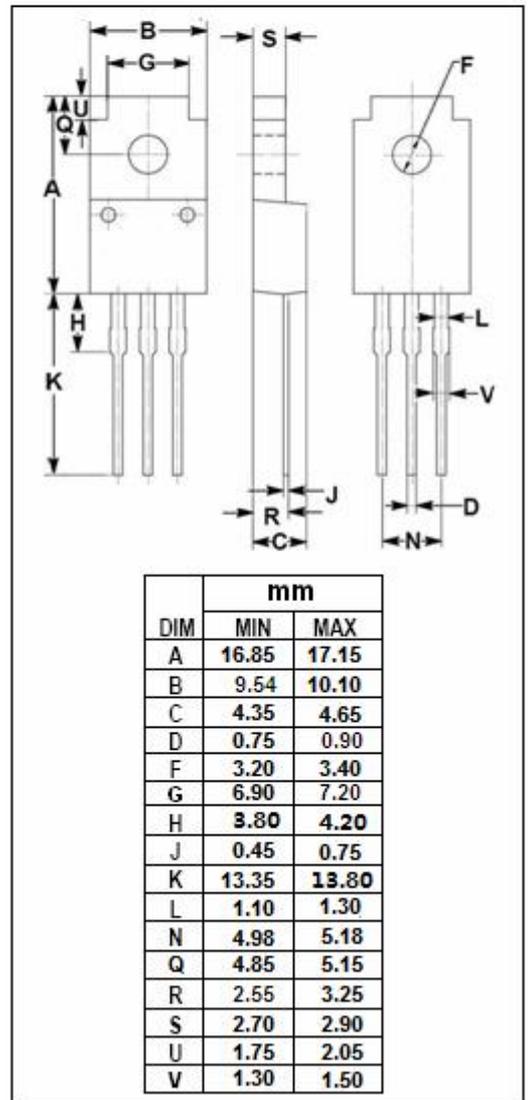
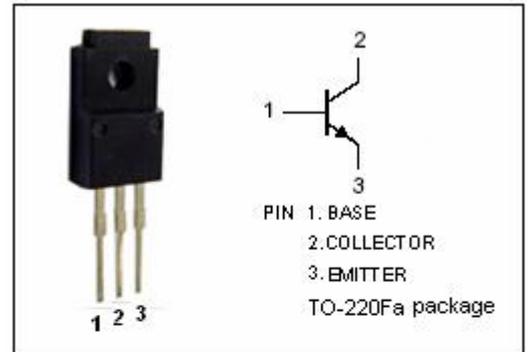
- Designed for use in switching regulators, inverters, motor controls, solenoid/relay drivers and deflection circuits.

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	$^\circ\text{C}/\text{W}$



isc Silicon NPN Power Transistor
BU306F/307F
ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

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

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