isc Silicon NPN Power Transistors BUW64A/B

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 90V(Min)- BUW64A
  = 110V(Min)- BUW64B
  = 130V(Min)- BUW64C
- High Switching Speed
- Low Saturation Voltage

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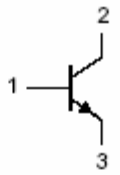


PIN 1. BASE
2.COLLECTOR
3. EMITTER
TO-220C package

APPLICATIONS

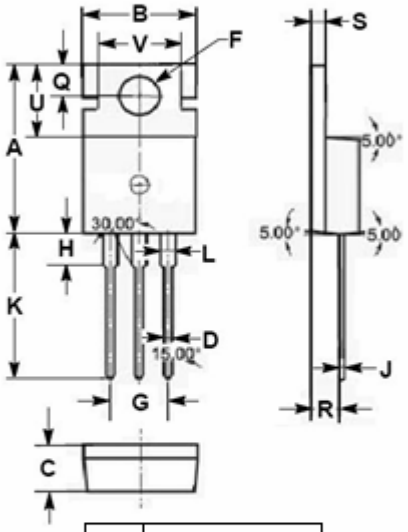
- Designed for converters, inverters, pulse-width-modulated regulators and a variety of power switching circuits.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage V_{BE}= -1.5V	BUW64A	140	V
		BUW64B	160	
		BUW64C	180	
$V_{CEO(SUS)}$	Collector-Emitter Voltage	BUW64A	90	V
		BUW64B	110	
		BUW64C	130	
V_{EBO}	Emitter-Base Voltage		7	V
I_C	Collector Current-Continuous		7	A
I_{CM}	Collector Current-Peak		10	A
I_C	Base Current-Continuous		5	A
P_C	Collector Power Dissipation@T_C=25℃		50	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	2.5	℃/W



DIM	mm MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

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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	BUW64A	I_C= 10mA ; I_B= 0	90			V
		BUW64B		110			
		BUW64C		130			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	BUW64A/B	I_C= 5A; I_B= 0.5A			0.8	V
		BUW64C	I_C= 4A; I_B= 0.4A			0.7	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		I_C= 7A; I_B= 0.7A			0.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUW64A/B	I_C= 5A; I_B= 0.5A			1.4	V
		BUW64C	I_C= 4A; I_B= 0.4A			1.4	
I_{CEV}	Collector Cutoff Current	BUW64A	V_{CE}= 140V;V_{BE}= -1.5V V_{CE}=140V;V_{BE}= -1.5V,T_C= 150℃			0.1 1.0	mA
		BUW64B	V_{CE}= 160V;V_{BE}= -1.5V V_{CE}= 160V;V_{BE}= -1.5V,T_C= 150℃			0.1 1.0	
		BUW64C	V_{CE}= 180V;V_{BE}= -1.5V V_{CE}= 180V;V_{BE}= -1.5V,T_C= 150℃			0.1 1.0	
I_{EBO}	Emitter Cutoff Current		V_{EB}= 7V; I_C=0			0.1	mA
h_{FE-1}	DC Current Gain		I_C= 0.2A ; V_{CE}= 2V	30			
h_{FE-2}	DC Current Gain	BUW64/A	I_C= 5A ; V_{CE}= 2V	20			
		BUW64B	I_C= 4A ; V_{CE}= 2V	20			
C_{OB}	Output Capacitance		I_E= 0 ;V_{CB}= 10V; f= 0.1MHz	50		150	pF
f_T	Current-Gain—Bandwidth Product		I_C= 0.5A ;V_{CE}= 10V	50			MHz

Switching Times

t_d	Delay Time	V_{CC}= 70V; t_p= 20μs For BUW64A/B I_C= 5A; I_{B1}= -I_{B2}= 0.5A For BUW64C I_C= 4A; I_{B1}= -I_{B2}= 0.4A			0.1	μs
t_r	Rise Time				0.25	μs
t_{stg}	Storage Time				1.0	μs
t_f	Fall Time				0.5	μs