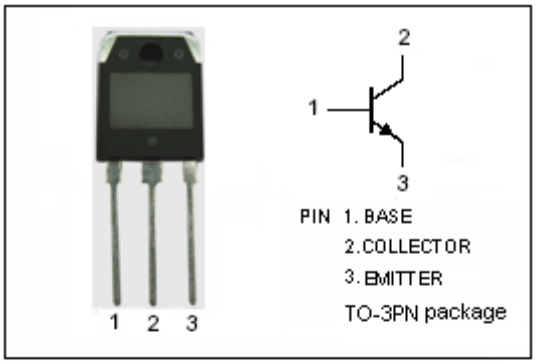
isc Silicon NPN Power Transistor BUS48P

DESCRIPTION

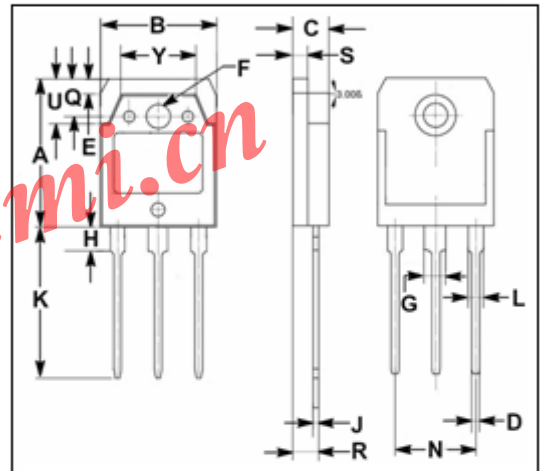
- High Voltage Capability
- High Current Capability
- Fast Switching Speed



APPLICATIONS

Designed for high-voltage,high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for line-operated swtchmode applications such as:

- Switching regulators
- Inverters
- Solenoid and relay drivers
- Motor controls
- Deflection circuits



DIM	mm MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage	850	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	5	A
I_{BM}	Base Current-peak	20	A
P_C	Collector Power Dissipation @T_C=25℃	150	W
T_j	Junction Temperature	175	℃
T_{stg}	Storage Temperature Range	-65~175	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.0	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 0.2A; I_B= 0; L= 25mH	400		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 50mA; I_C= 0	7		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 2A I_C= 10A; I_B= 2A;T_C= 100℃		1.5 2.0	V
$V_{CE\ (sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 15A ;I_B= 3A		5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 2A I_C= 10A; I_B= 2A;T_C= 100℃		1.6 1.6	V
I_{CER}	Collector Cutoff Current	V_{CE}=rated V_{CER}; R_{BE}= 10Ω V_{CE}=rated V_{CER}; R_{BE}= 10Ω;T_C=125℃		0.5 3.0	mA
I_{CEV}	Collector Cutoff Current	V_{CE}=rated V_{CES}; $V_{BE(off)}$= 1.5V V_{CE}=rated V_{CES}; $V_{BE(off)}$= 1.5V;T_C=125℃		0.2 2.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		0.1	mA
h_{FE}	DC Current Gain	I_C= 10A; V_{CE}= 5V	8		
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V, f_{test}= 1MHz		350	pF

Switching times Resistive Load

t_d	Delay Time	I_C= 10A; I_{B1}= 2A; V_{CC}= 250V; $V_{BE(off)}$= 5V, Duty Cycle≤2%		0.2	μs
t_r	Rise Time			0.7	μs
t_s	Storage Time			2.0	μs
t_f	Fall Time			0.4	μs