NPN BUW48

HIGH CURRENT SWITCHING TRANSISTOR

The BUW48 is silicon NPN power transistor in TO3PN package.
They are intended for use in switching regulators, motor controls, high frequency and efficiency converters.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CEO}	Collector-Emitter Voltage	$I_B = 0$	60	V
V_{CBO}	Collector-Base Voltage	$I_E = 0$	120	V
V_{EBO}	Emitter-Base Voltage	$I_C = 0$	7	V
I_C	Collector Current		30	A
I_{CM}	Collector Current Peak	t_p = 10 ms	45	A
I_B	Base Current		8	A
I_{BM}	Base Current Peak		12	A
P_t	Total Power Dissipation	@ T_C = 25°	150	Watts
T_J	Junction Temperature		175	°C
T_{Stg}	Storage Temperature		-65 to +175	°C

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Thermal Resistance, Junction to Case	1	°C/W

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	I_C= 200 mA, I_B= 0 A L= 25 mH	60	-	-	V
V_{EBO}	Emitter-Base Voltage	I_C= 0 A , I_E= 50 mA	7	-	-	V
I_{CEX}	Collector Cutoff Current	V_{CE}= 60 V, V_{BE}= -1.5 V	-	-	1	mA
		V_{CE}= 60 V, V_{BE}= -1.5 V T_{case} = 125°C	-	-	3	
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5 V, I_C= 0 A	-	-	1	mA
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C= 20 A, I_B= 2 A	-	-	0.6	V
		I_C= 40 A, I_B= 4 A	-	-	1.4	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	I_C= 40 A, I_B= 4 A	-	-	2.1	
f_T	Transition frenquency	V_{CE}= 60 V, I_C= 1 A f= 15MHz	-	8	-	MHz

SWITCHING TIMES

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
t_{on}	Turn-on time	I_C= 40 A, I_{B1} = -I_{B2} = 4 A V_{CC}=60 V	-	1.2	1.5	µs
t_s	Storage time		-	0.6	1.1	
t_f	File time		-	0.17	0.25	

(*) Pulse Duration = 300 µs, Duty Cycle <= 1.5%

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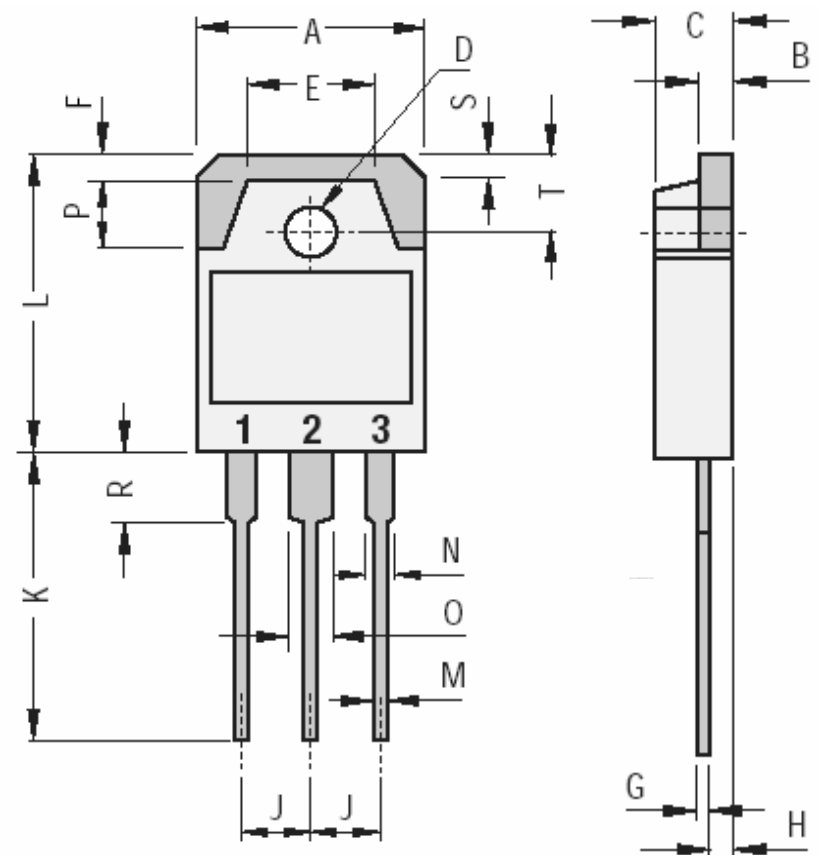
MECHANICAL DATA CASE TO3PN Non Isolated Plastic Package



DIMENSIONS (mm)		
	Min.	Max.
A	15.20	1600
B	1.90	2.10
C	4.60	5.00
D	3.10	3.30
E		9.60
F		2.00
G	0.35	0.55
H		1.40
J	5.35	5.55
K	20.00	
L	19.60	20.20
M	0.95	1.25
N		2.00
O		3.00
P		4.00
R		4.00
S		1.80
T	4.80	5.20

Pin 1 :	Base
Pin 2 :	Collector
Pin 3 :	Emitter
Package	Collector

Revised September 2012