

**isc Silicon NPN Power Transistor**

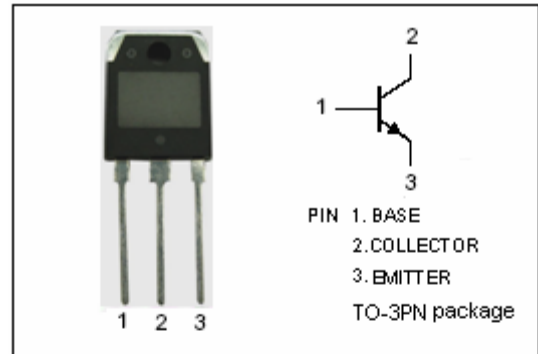
**BUW50**

**DESCRIPTION**

- High Current Capability
- Fast Switching Speed
- Low Saturation Voltage and High Gain

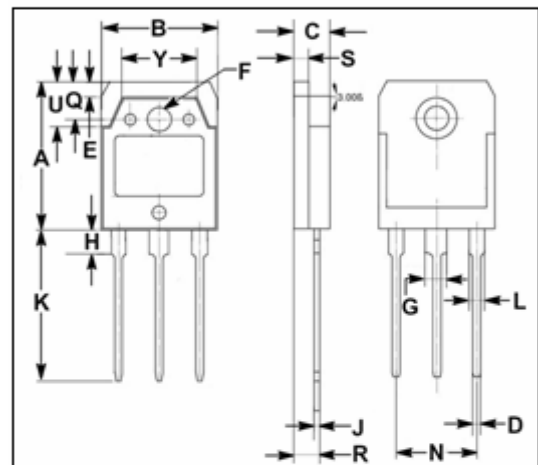
**APPLICATIONS**

- Designed for use in general purpose power amplifier applications.



**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CEV</sub>	Collector-Emitter Voltage (V <sub>BE</sub> = -1.5V)	250	V
V <sub>CEO</sub>	Collector-Emitter Voltage	125	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>C</sub>	Collector Current-Continuous	25	A
I <sub>CM</sub>	Collector Current-Peak	50	A
I <sub>B</sub>	Base Current-Continuous	6	A
I <sub>BM</sub>	Base Current-peak	12	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	150	W
T <sub>j</sub>	Junction Temperature	175	°C
T <sub>stg</sub>	Storage Temperature Range	-65~175	°C



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

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	1.0	°C/W

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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}; I_B=0; L=25\text{mH}$	125			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\text{mA}; I_C=0$	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=0.5\text{A}$			0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=20\text{A}; I_B=2\text{A}$			0.9	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=20\text{A}; I_B=2\text{A}$			1.6	V
$I_{CER}$	Collector Cutoff Current	$V_{CE}=V_{CEV}; R_{BE}=10\Omega$ $V_{CE}=V_{CEV}; R_{BE}=10\Omega; T_C=100^{\circ}\text{C}$			1.0 5.0	mA
$I_{CEV}$	Collector Cutoff Current	$V_{CE}=V_{CEV}; V_{BE}=-1.5\text{V}$ $V_{CE}=V_{CEV}; V_{BE}=-1.5\text{V}; T_C=100^{\circ}\text{C}$			1.0 5.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA

Switching times; Resistive Load

$t_r$	Rise Time	$I_C=24\text{A}; I_{B1}=3\text{A}; V_{CC}=100\text{V};$ $V_{BB}=-5\text{V}; R_B=0.83\Omega; t_p=30\mu\text{s}$			0.6	$\mu\text{s}$
$t_s$	Storage Time				1.2	$\mu\text{s}$
$t_f$	Fall Time				0.3	$\mu\text{s}$