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Silicon NPN Power Transistor

BUW50

DESCRIPTION

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

APPLICATIONS

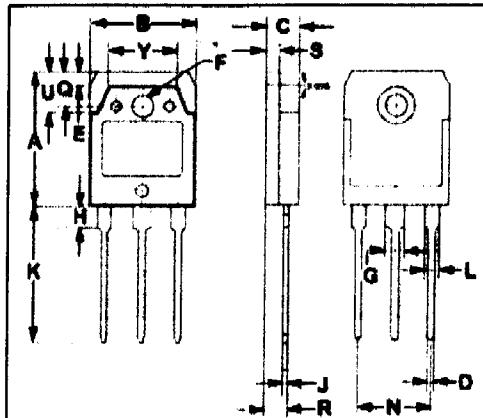
- Designed for use in general purpose power amplifier applications.

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CEV}	Collector-Emitter Voltage (V _{BE} = -1.5V)	250	V
V _{CEO}	Collector-Emitter Voltage	125	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	25	A
I _{CM}	Collector Current-Peak	50	A
I _B	Base Current-Continuous	6	A
I _{BM}	Base Current-peak	12	A
P _C	Collector Power Dissipation @T _c =25°C	150	W
T _J	Junction Temperature	175	°C
T _{stg}	Storage Temperature Range	-65~175	°C

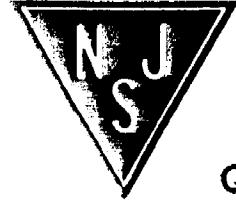
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th,j-c}	Thermal Resistance,Junction to Case	1.0	°C/W



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	10.69	10.91
O	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	3.30	3.40
Y	9.90	10.10

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(\text{SUS})}$	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
$V_{CE(\text{sat})-1}$	Collector-Emitter Saturation Voltage	$I_C= 10\text{A}; I_B= 0.5\text{A}$			0.8	V
$V_{CE(\text{sat})-2}$	Collector-Emitter Saturation Voltage	$I_C= 20\text{A}; I_B= 2\text{A}$			0.9	V
$V_{BE(\text{sat})}$	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	μs
t_s	Storage Time				1.2	μs
t_f	Fall Time				0.3	μs