

isc Silicon NPN Power Transistor

BUV24

DESCRIPTION

- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.6V$ (Max.) @ $I_C = 6A$
- High Power Dissipation
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V$ (Min.)

APPLICATIONS

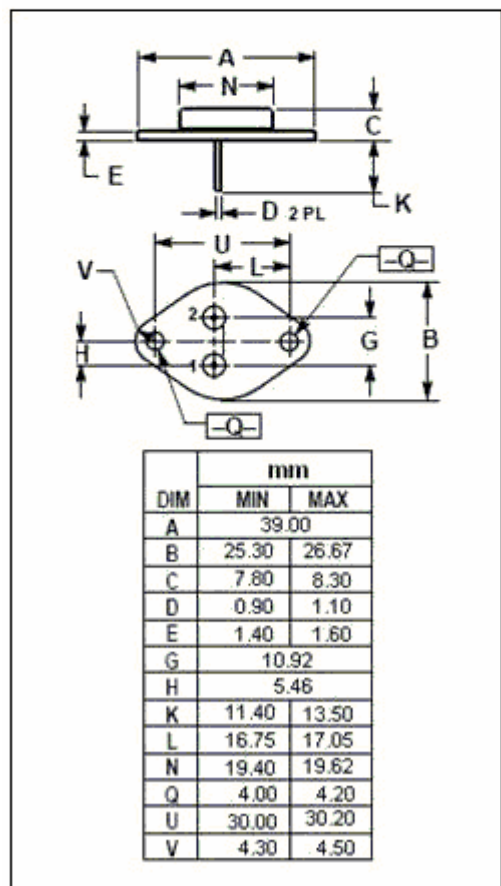
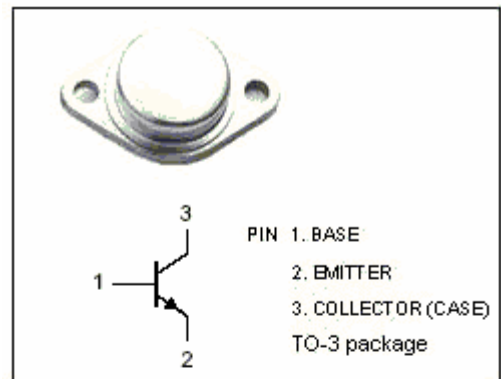
- Designed for use in power switching applications in military and industrial equipments.

Absolute maximum ratings($T_a = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	450	V
V_{CER}	Collector-Emitter Voltage $R_{BE} = 100 \Omega$	440	V
V_{CEX}	Collector-Emitter Voltage $V_{BE} = -1.5V$	450	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	4	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	250	W
T_j	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature Range	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.7	$^\circ C/W$



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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	$I_C=0.2\text{A}$; $L=25\text{mH}$	400			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	$I_C=6\text{A}$; $I_B=1.2\text{A}$			0.6	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=12\text{A}$; $I_B=2.4\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=12\text{A}$; $I_B=2.4\text{A}$			1.15	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=320\text{V}$; $I_B=0$			3.0	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}=V_{CEX}$; $V_{BE}=-1.5\text{V}$ $V_{CE}=V_{CEX}$; $V_{BE}=-1.5\text{V}$; $T_C=125^{\circ}\text{C}$			3.0 12	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$			1.0	mA
h_{FE-1}	DC Current Gain	$I_C=6\text{A}$; $V_{CE}=4\text{V}$	15		60	
h_{FE-2}	DC Current Gain	$I_C=12\text{A}$; $V_{CE}=4\text{V}$	8			
f_T	Current-Gain—Bandwidth Product	$I_C=2\text{A}$; $V_{CE}=15\text{V}$, $f_{test}=10\text{MHz}$	8			MHz

Switching Times

t_{on}	Turn-on Time	$I_C=12\text{A}$; $I_{B1}=-I_{B2}=2.4\text{A}$			1.6	μs
t_s	Storage Time				3.0	μs
t_f	Fall Time				1.4	μs