

Silicon NPN Power Transistor

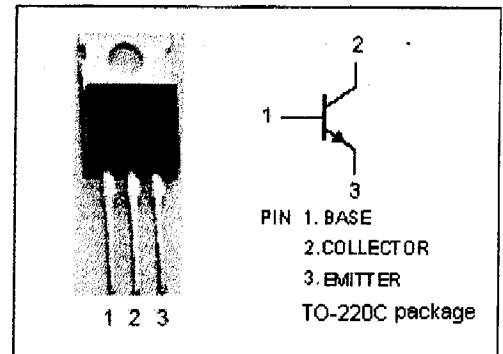
BUV27

DESCRIPTION

- Low Saturation Voltage
- Fast Switching Speed

APPLICATIONS

- Designed for use in high frequency and efficiency converters, switching regulators and motor control

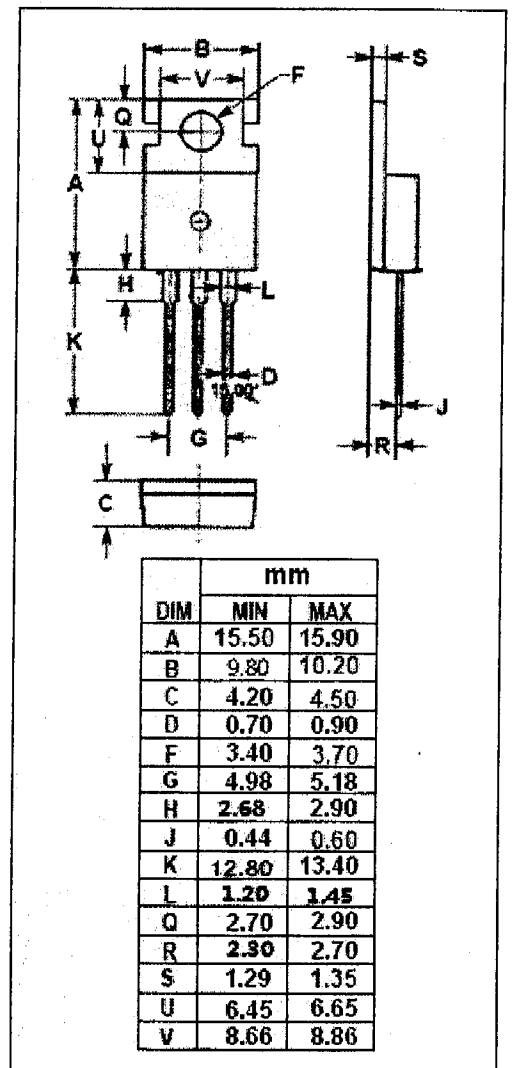


ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	240	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	4	A
I_{BM}	Base Current-Peak	6	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	85	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R_{th-j-c}	Thermal Resistance, Junction to Case	1.76	$^\circ\text{C/W}$



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	$I_C= 50\text{m A}; I_B= 0$	120			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 50\text{mA}; I_C= 0$	7		30	V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C= 4\text{A}; I_B= 0.4\text{A}$			0.7	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C= 8\text{A}; I_B= 0.8\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 8\text{A}; I_B= 0.8\text{A}$			2	V
I_{CEX}	Collector Cutoff Current	$V_{CE} = 240\text{V}; V_{BE} = -1.5\text{V}; T_C=125^\circ\text{C}$			1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 5\text{V}; I_C= 0$			1	mA

Switching Times Resistive Load

t_{on}	Turn-On Time	$I_C= 8\text{A}; I_{B1}= 0.8\text{A}; V_{CC}= 90\text{V}$ $V_{BE} = - 6\text{V}; R_{BB} = 3.75\Omega$		0.4	0.8	ms
t_s	Storage Time			0.5	1.2	μs
t_f	Fall Time			0.12	0.25	μs