

isc Silicon NPN Power Transistor

BUX41N

DESCRIPTION

- Collector-Emitter Voltage-
: V_{CEO} = 160V(Min)
- High Current Capability
- Good Linearity of h_{FE}

APPLICATIONS

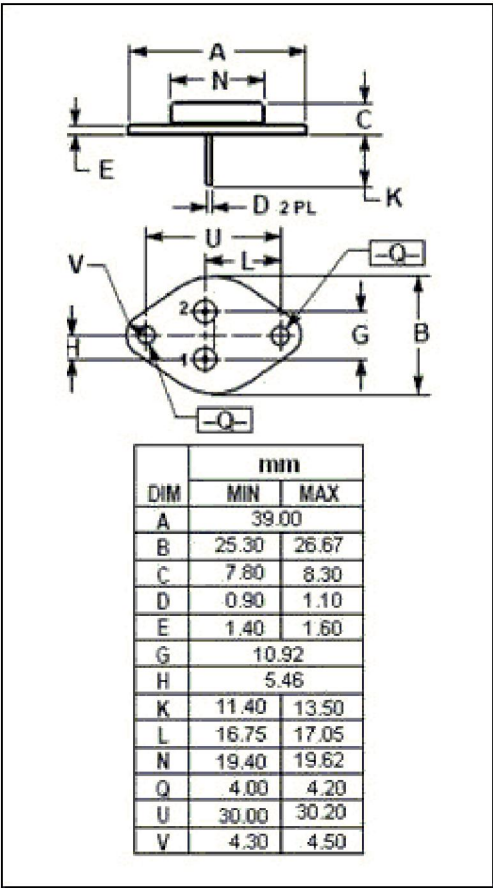
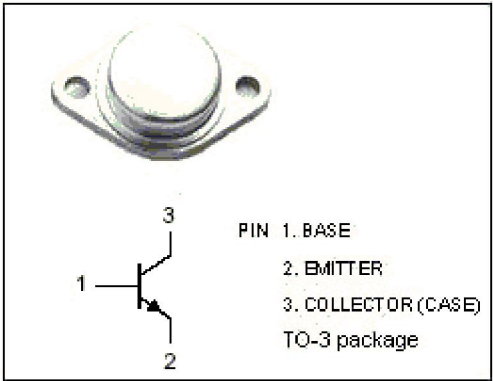
- Designed for high speed, high current, high power applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	220	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{CEX}	Collector-Emitter Voltage $V_{BE} = -1.5\text{V}$	220	V
V_{CER}	Collector-Emitter Voltage $R_{BE} = 100\Omega$	200	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	18	A
I_{CM}	Collector Current-Peak	25	A
I_B	Base Current-Continuous	3.6	A
P_C	Collector Power Dissipation @ $T_C=100^{\circ}\text{C}$	120	W
T_J	Junction Temperature	200	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-65~200	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.46	$^{\circ}\text{C/W}$



isc Silicon NPN Power Transistor**BUX41N****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 200mA ; I _B = 0, L= 25mH	160			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E =50mA; I _C = 0	7			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C =8A; I _B =0.8A			1.2	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C =12A; I _B =1.5A			1.6	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =12A; I _B =1.5A			2.0	V
I _{CEO}	Collector Cutoff Current	V _{CE} =130V; I _B = 0			1.0	mA
I _{CEX}	Collector Cutoff Current	V _{CE} = 220V; V _{BE} = -1.5V V _{CE} = 220V; V _{BE} = -1.5V; T _C = 125°C			1.0 5.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C =0			1.0	mA
h _{FE-1}	DC Current Gain	I _C = 8A ; V _{CE} = 4V	15		45	
h _{FE-2}	DC Current Gain	I _C = 12A ; V _{CE} = 4V	8			
f _T	Current-Gain—Bandwidth Product	I _C = 1A ; V _{CE} = 15V; f=10MHz	8			MHz

Switching Times; Resistive Load

t _{on}	Turn-on Time	I _C = 12A ; I _{B1} = -I _{B2} = 1.5A; V _{CC} = 30V; R _B = 3.9 Ω ; R _C = 2.5 Ω			1.3	μ s
t _s	Storage Time				1.5	μ s
t _f	Fall Time				0.8	μ s