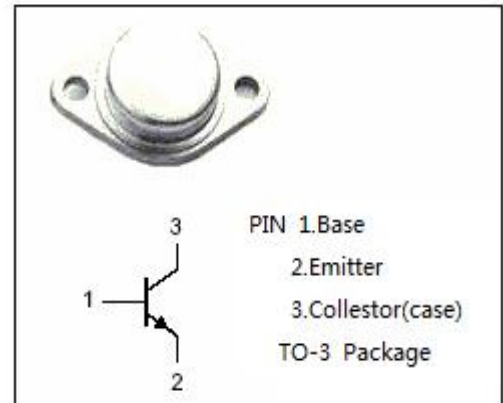


isc Silicon NPN Power Transistor
BUX13
DESCRIPTION

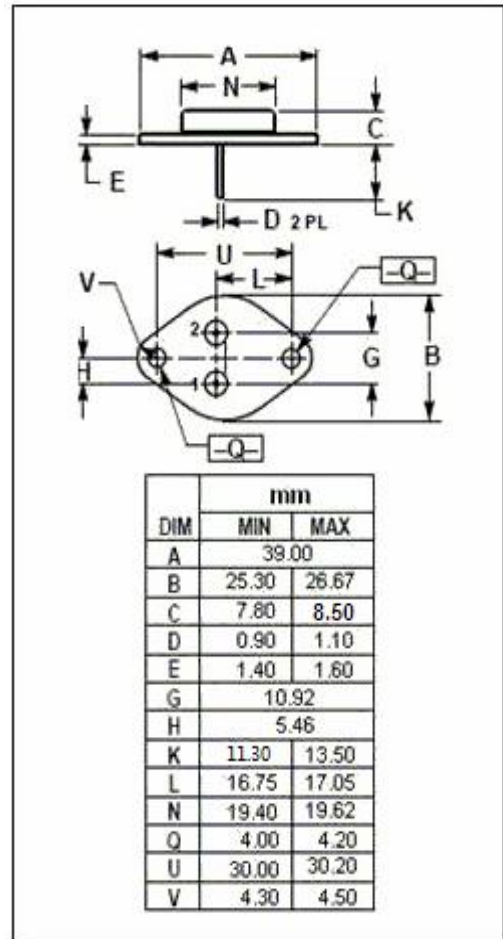
- Low Collector Saturation Voltage
- High Switching Speed
- High Current Current Capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Power switching circuits
- Motor control


Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	400	V
V _{CEX}	Collector-Emitter Voltage V _{BE} = -1.5V	400	V
V _{CER}	Collector-Emitter Voltage R _{BE} = 100 Ω	390	V
V _{CEO}	Collector-Emitter Voltage	325	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	15	A
I _{CM}	Collector Current-Peak	20	A
I _B	Base Current-Continuous	3	A
P _C	Collector Power Dissipation @T _C =25°C	150	W
T _j	Junction Temperature	200	°C
T _{stg}	Storage Temperature Range	-65~200	°C


THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.17	°C/W

isc Silicon NPN Power Transistor
BUX13
ELECTRICAL CHARACTERISTICS

 T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	325			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 = 4A; I _B = 0.8A			0.8	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 8A ; I _B = 1.6A			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 8A ; I _B = 1.6A			1.5	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 260V; I _B = 0			1.5	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 400V; I _E = 0 V _{CB} = 400V; I _E = 0; T _C =125°C			1.5 6.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			1.0	mA
h _{FE-1}	DC Current Gain	I _C = 4A; V _{CE} = 4V	15		60	
h _{FE-2}	DC Current Gain	I _C = 8A; V _{CE} = 4V	8			
f _T	Current-Gain—Bandwidth Product	I _C = 1A; V _{CE} = 15V, f _{test} = 10MHz	8			MHz

Switching Times

t _{on}	Turn-on Time	I _C = 8A ; I _{B1} = 1.6A; V _{CC} = 160V			1.2	μ s
t _s	Storage Time	I _C = 8A ; I _{B1} = -I _{B2} = 1.6A; V _{CC} = 160V			2.5	μ s
t _f	Fall Time				1.0	μ s

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