

isc Silicon NPN Power Transistor

BUX12

DESCRIPTION

- Low Collector Saturation Voltage-
- High Switching Speed
- High Current Current Capability

APPLICATIONS

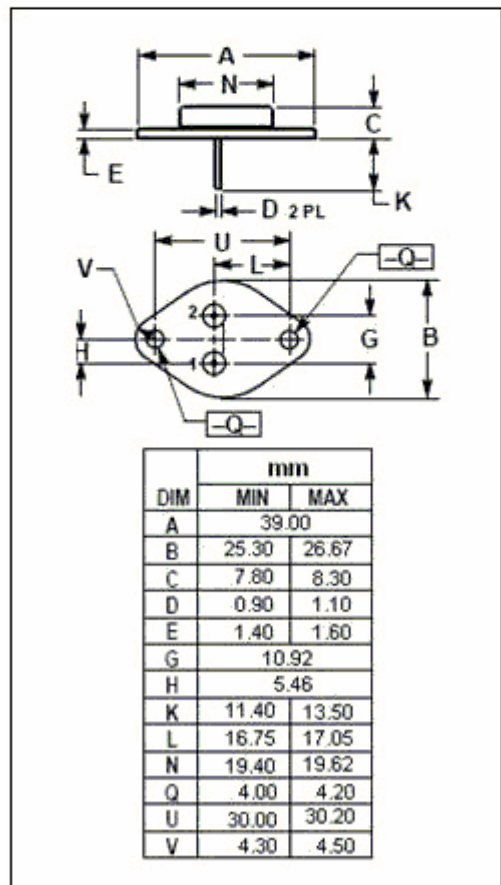
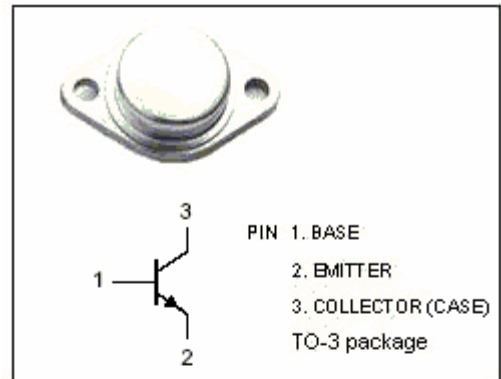
- Power switching circuits
- Motor control

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	300	V
V _{CEX}	Collector-Emitter Voltage V _{BE} = -1.5V	300	V
V _{CEO}	Collector-Emitter Voltage	250	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	20	A
I _{CM}	Collector Current-Peak	25	A
I _B	Base Current-Continuous	4	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



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 0.1A; I _B = 0	250			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 0.5A			1.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 10A ;I _B = 1.25A			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 10A ;I _B = 1.25A			1.5	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 200V; I _B = 0			1.5	mA
I _{CEx}	Collector Cutoff Current	V _{CE} = 300V;V _{BE} = -1.5V V _{CE} = 300V;V _{BE} = -1.5V;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 = 5A ; V _{CE} = 4V	20		60	
h _{FE-2}	DC Current Gain	I _C = 10A ; V _{CE} = 4V	10			
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 = 10A ;I _{B1} = 1.25A; V _{CC} = 150V			1.0	μs
t _s	Storage Time	I _C = 10A ;I _{B1} = -I _{B2} = 1.25A; V _{CC} = 150V			2.0	μs
t _f	Fall Time				0.5	μs