

isc Silicon NPN Power Transistor
BUY54A
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

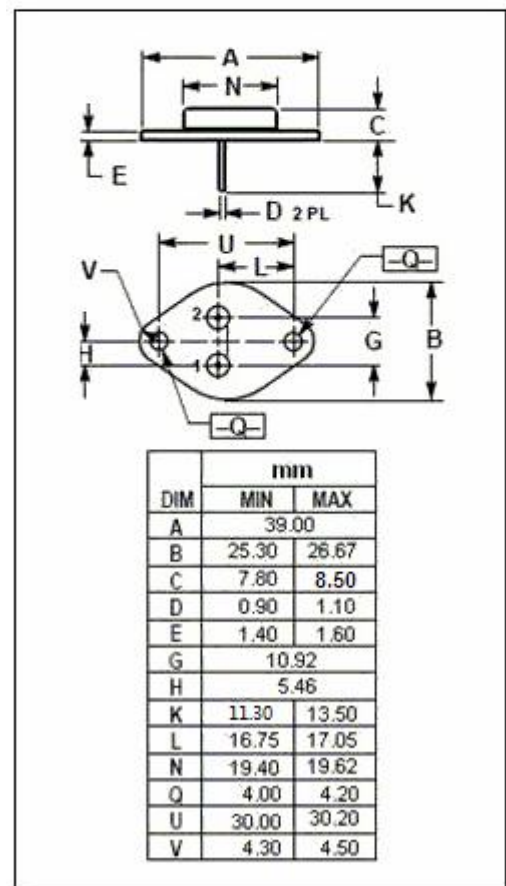
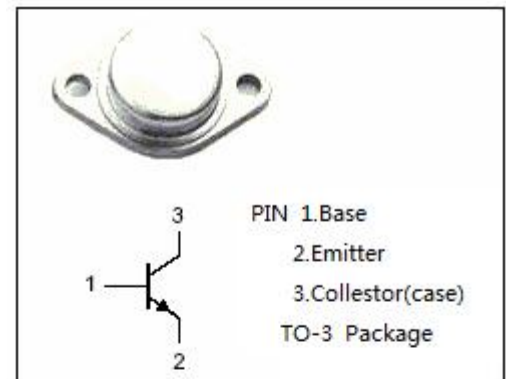
- Switching regulators
- Motor control
- High frequency and efficiency converters

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-Base Voltage	100	V
V _{CEO}	Collector-Emitter Voltage	100	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	30	A
I _{CM}	Collector Current-Peak	45	A
I _B	Base Current-Continuous	8	A
P _T	Total 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 = 50mA ; I _B = 0	100			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E =1mA; I _C = 0	7			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 20A; I _B = 2A			1.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 30A; I _B = 3A			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 30A; I _B = 3A			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} =100V; I _E =0			0.1	mA
I _{EBO}	Emitter Cutoff current	V _{EB} =6V; I _C =0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 1A ; V _{CE} = 4V	60		200	
h _{FE-2}	DC Current Gain	I _C = 15A ; V _{CE} = 4V	20		150	
f _T	Current-Gain—Bandwidth Product	I _C = 1A; V _{CE} = 5V; f _{test} = 1MHz	10			MHz

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