

isc Silicon NPN Power Transistor

BUY89
DESCRIPTION

High Switching Speed

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 800V$ (Min)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

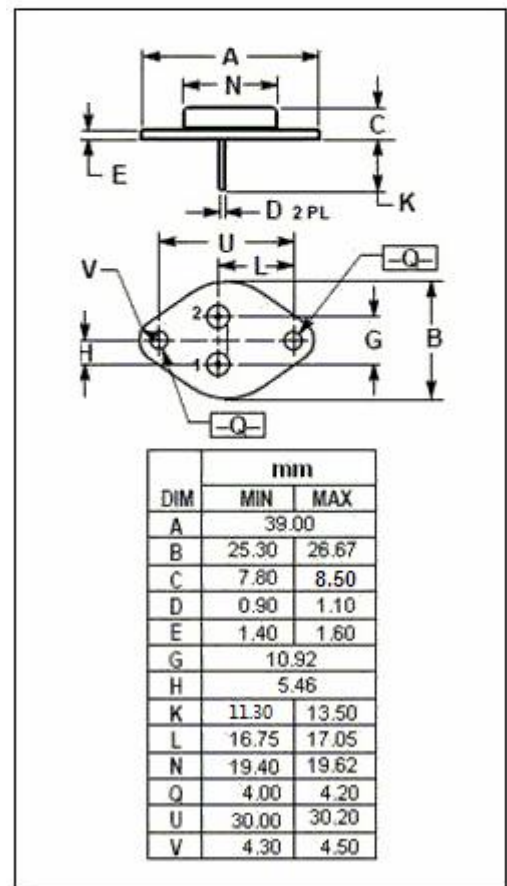
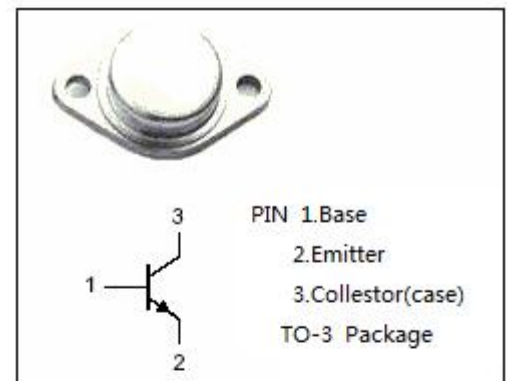
- Designed for use in AC motor control systems from three-phase mains.

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

SYMBOL	PARAMETER	MAX	UNIT
V_{CES}	Collector- Emitter Voltage ($V_{BE} = 0$)	1500	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
I_{CSM}	Collector Current-Peak Non-repetitive	15	A
I_B	Base Current	4	A
I_{BM}	Base Current-Peak	6	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ C$	80	W
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.12	$^\circ C/W$



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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 = 50mA ; I _B = 0	800			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4.5A; I _B = 2A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 4.5A; I _B = 2A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} =V _{CESMmax} ; I _E = 0 V _{CB} =V _{CESMmax} ; I _E = 0; T _J = 100°C			1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			10	mA
h _{FE}	DC Current Gain	I _C = 4.5A ; V _{CE} = 5V	2.5			
f _T	Current-Gain—Bandwidth Product	I _C = 0.1A ; V _{CE} = 5V; f _{test} = 5MHz		7		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1MHz		125		pF

Switching Times , Resistive Load

t _{on}	Turn-On Time			1.5		μs
t _{stg}	Storage Time	I _C = 4.5A ; I _{B1} = -I _{B2} = 2A; V _{CC} = 250V; R _L = 56 Ω		4.5		μs
t _f	Fall Time			0.5		μs

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