

Silicon NPN Power Transistor

BUY89

DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-
 $V_{CEO(SUS)} = 800V$ (Min)

APPLICATIONS

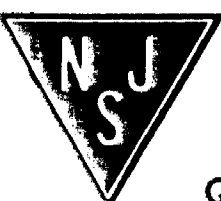
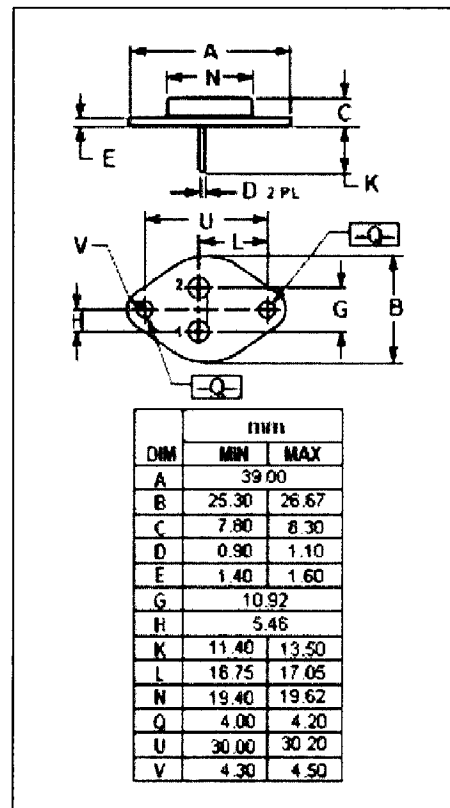
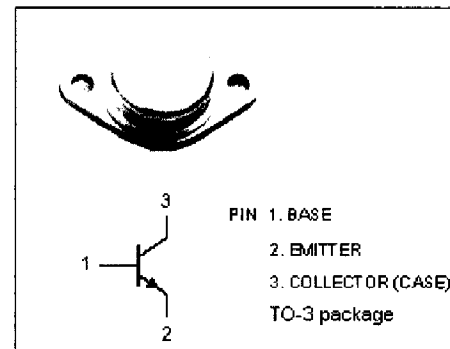
- Designed for use in AC motor control systems from three-phase mains.

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_{sig}	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

$T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}; I_B=0; L=25\text{mH}$	800			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2\text{A}$			1.5	V
I_{CES}	Collector Cutoff Current	$V_{CE}=V_{CESMmax}; V_{BE}=0$ $V_{CE}=V_{CESMmax}; V_{BE}=0; T_J=100^\circ\text{C}$			1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			10	mA
h_{FE}	DC Current Gain	$I_C=4.5\text{A}; V_{CE}=5\text{V}$	2.5			
f_T	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}; V_{CE}=5\text{V}; f_{test}=5\text{MHz}$		7		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		125		pF

Switching Times , Resistive Load

t_{on}	Turn-On Time	$I_C=4.5\text{A}; I_{B1}=-I_{B2}=2\text{A};$ $V_{CC}=250\text{V}; R_L=56\ \Omega$		1.5		μs
t_{stg}	Storage Time			4.5		μs
t_f	Fall Time			0.5		μs