

Silicon NPN Power Transistor

BUY49P

DESCRIPTION

- High Collector-Emitter Sustaining Voltage-
 : $V_{CEO(SUS)} = 200V(\text{Min})$
- High Current Capability

APPLICATIONS

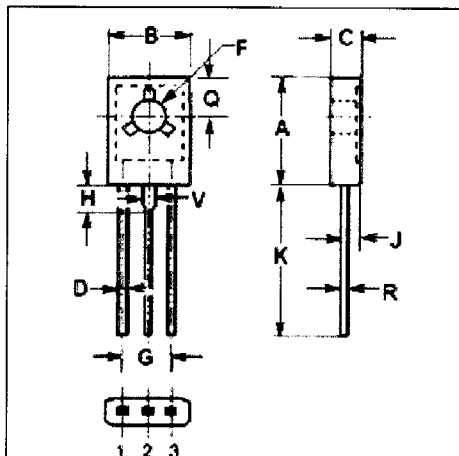
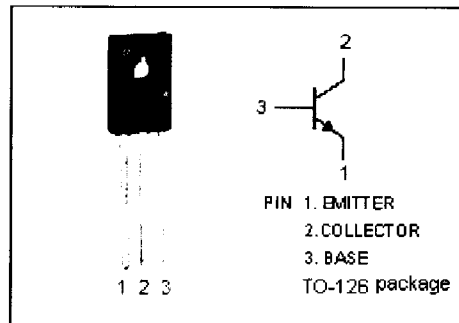
- Designed for high-current switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	250	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	3.0	A
I_{CM}	Collector Current-Peak	5.0	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	15	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

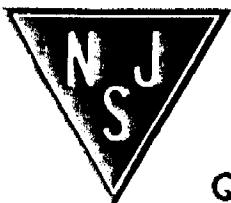
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	8.33	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	10.70	10.90
B	7.70	7.90
C	2.60	2.80
D	0.66	0.86
F	3.10	3.30
G	4.48	4.68
H	2.00	2.20
J	1.35	1.55
K	16.10	16.30
Q	3.70	3.90
R	0.40	0.60
V	1.17	1.37

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=20\text{mA}; I_B=0$	200			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=0.1\text{mA}; I_E=0$	250			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=500\text{mA}; I_B=50\text{mA}$			0.2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=500\text{mA}; I_B=50\text{mA}$			1.1	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=200\text{V}; I_E=0$			0.1	μA
h_{FE-1}	DC Current Gain	$I_C=20\text{mA}; V_{CE}=2\text{V}$	30			
h_{FE-2}	DC Current Gain	$I_C=20\text{mA}; V_{CE}=5\text{V}$	40			
h_{FE-3}	DC Current Gain	$I_C=0.5\text{mA}; V_{CE}=5\text{V}$	40			
f_T	Current-Gain—Bandwidth Product	$I_C=100\text{mA}; V_{CE}=10\text{V}$	30			MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$			50	pF

Switching Times

t_{on}	Turn-On Time	$I_C=0.5\text{A}; I_{B1}=-I_{B2}=50\text{mA}; V_{CC}=20\text{V}$			0.8	μs
t_{off}	Turn-Off Time				2.5	μs