

isc Silicon NPN Power Transistor

BUY49P

DESCRIPTION

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

APPLICATIONS

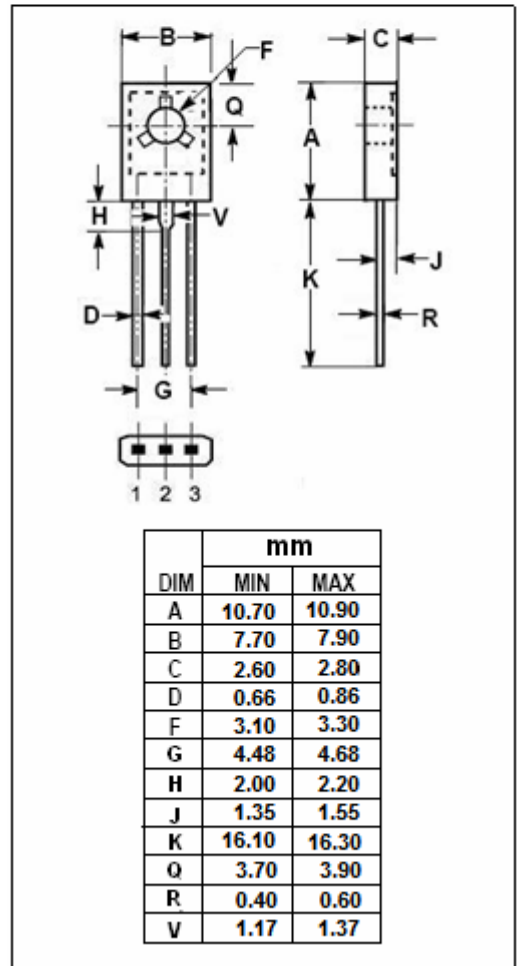
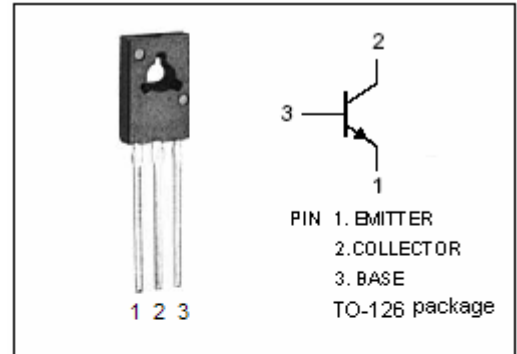
- Designed for high-current switching applications.

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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 20mA; I _B = 0	200			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 0.1mA; I _E = 0	250			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	6			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 500mA; I _B = 50mA			0.2	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 500mA; I _B = 50mA			1.1	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 200V; I _E = 0			0.1	μ A
h _{FE-1}	DC Current Gain	I _C = 20mA; V _{CE} = 2V	30			
h _{FE-2}	DC Current Gain	I _C = 20mA; V _{CE} = 5V	40			
h _{FE-3}	DC Current Gain	I _C = 0.5mA; V _{CE} = 5V	40			
f _T	Current-Gain—Bandwidth Product	I _C = 100mA; V _{CE} = 10V	30			MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1.0MHz			50	pF

Switching Times

t _{on}	Turn-On Time	I _C = 0.5A; I _{B1} = -I _{B2} = 50mA; V _{CC} = 20V			0.8	μ s
t _{off}	Turn-Off Time				2.5	μ s