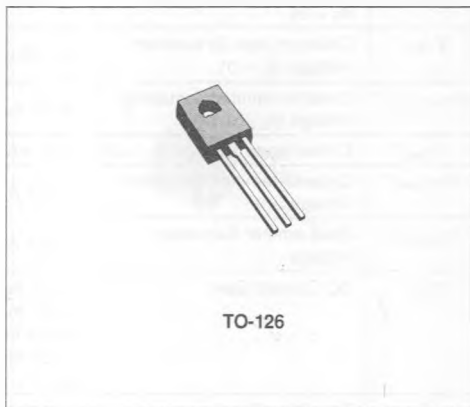


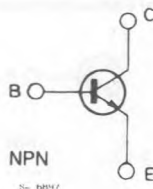
HIGH VOLTAGE, MEDIUM CURRENT SWITCH

DESCRIPTION

The BUY49P is a silicon epitaxial planar NPN transistor in Jedec TO-126 plastic package. It is used in high-current switching applications up to 3A.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	250	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	200	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	3	A
I_{CM}	Collector Peak Current	5	A
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25^\circ\text{C}$	15	W
T_{stg}	Storage Temperature	- 65 to 150	$^\circ\text{C}$
T_j	Junction Temperature	150	$^\circ\text{C}$

THERMAL DATA

$R_{th\ J-case}$	Thermal Resistance Junction-case	Max	8.33	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	$V_{CB} = 200\text{ V}$			0.1	μA
V_{CBO}^*	Collector-base Breakdown Voltage ($I_E = 0$)	$I_C = 100\text{ }\mu\text{A}$	250			V
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage ($I_B = 0$)	$I_C = 20\text{ mA}$	200			V
V_{EBO}^*	Emitter-base Voltage ($I_C = 0$)	$I_E = 1\text{ mA}$	6			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 0.5\text{ A}$ $I_B = 50\text{ mA}$			0.2	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 0.5\text{ A}$ $I_B = 50\text{ mA}$			1.1	V
h_{FE}^*	DC Current Gain	$I_C = 20\text{ mA}$ $V_{CE} = 2\text{ V}$ $I_C = 20\text{ mA}$ $V_{CE} = 5\text{ V}$ $I_C = 0.5\text{ mA}$ $V_{CE} = 5\text{ V}$ $I_C = 20\text{ mA}$ $V_{CE} = 2\text{ V}$ $T_{case} = -55\text{ °C}$	30 40 40 16		120	
f_T	Transition Frequency	$I_C = 100\text{ mA}$ $V_{CE} = 10\text{ V}$	30			MHz
C_{CBO}	Collector-base Capacitance	$I_E = 0$ $V_{CB} = 10\text{ V}$ $f = 1\text{ MHz}$			50	pF
t_{on}	Turn-on Time	$I_C = 0.5\text{ A}$ $V_{CC} = 20\text{ V}$			0.8	μs
t_{off}	Turn-off Time	$I_{B1} = -I_{B2} = 50\text{ mA}$			2.5	μs

* Pulsed: pulse duration = 300 μs , duty cycle = 1.5 %.