

T-29-21

MAXIMUM RATINGS

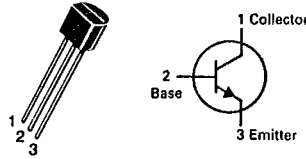
Rating	Symbol	BC 445	BC 447	BC 449	Unit
Collector-Emitter Voltage	V _{CEO}	60	80	100	V _{dc}
Collector-Base Voltage	V _{CBO}	60	80	100	V _{dc}
Emitter-Base Voltage	V _{EBO}	5.0			V _{dc}
Collector Current - Continuous	I _C	300			mAdc
Total Device Dissipation @ T _A = 25°C Derate above 25°C	P _D	625	5.0		mW mW/°C
Total Device Dissipation @ T _C = 25°C Derate above 25°C	P _D	1.5	12		Watt mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-55 to +150			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	83.3	°C/W
Thermal Resistance, Junction to Ambient	R _{θJA}	200	°C/W

**BC445, A
BC447, A, B
BC449, A, B**

CASE 29-04, STYLE 17
TO-92 (TO-226AA)



HIGH VOLTAGE TRANSISTORS

NPN SILICON

Refer to MPS8098 for graphs.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage* (I _C = 1.0 mAdc, I _B = 0)	BC445 BC447 BC449	V _{(BR)CEO}	60 80 100	— — —	— — —	V _{dc}
Collector-Base Breakdown Voltage (I _C = 100 μA, I _E = 0)	BC445 BC447 BC449	V _{(BR)CBO}	60 80 100	— — —	— — —	V _{dc}
Emitter-Base Breakdown Voltage (I _E = 10 μAdc, I _C = 0)		V _{(BR)EBO}	5.0	—	—	V _{dc}
Collector Cutoff Current (V _{CB} = 40 Vdc, I _E = 0) (V _{CB} = 60 Vdc, I _E = 0) (V _{CB} = 80 Vdc, I _E = 0)	BC445 BC447 BC449	I _{CBO}	— — —	— — —	100 100 100	nAdc

ON CHARACTERISTICS*

DC Current Gain (I _C = 2.0 mA, V _{CE} = 5.0 V)	BC445/447/449 BC445A/447A/449A BC447B/449B	h _{FE}	50 120 180	— — —	460 220 460	—
(I _C = 10 mA, V _{CE} = 5.0 V)	BC445/447/449 BC445A/447A/449A BC447B/449B		50 100 160	— — —	— — —	
(I _C = 100 mA, V _{CE} = 5.0 V)	BC445/447/449 BC445A/447A/449A BC447B/449B		50 60 90	— — —	— — —	
Collector-Emitter Saturation Voltage (I _C = 100 mAdc, I _B = 10 mAdc)		V _{CE(sat)}	—	0.1	0.25	V _{dc}
Base-Emitter Saturation Voltage (I _C = 100 mAdc, I _B = 10 mAdc)		V _{BE(sat)}	—	0.85	—	V _{dc}
Base-Emitter On Voltage (I _C = 2.0 mA, V _{CE} = 5.0 V) (I _C = 100 mA, V _{CE} = 5.0 V)*		V _{BE(on)}	0.55 —	— 0.8	0.7 1.2	V _{dc}

DYNAMIC CHARACTERISTICS

Current-Gain Bandwidth Product (I _C = 50 mAdc, V _{CE} = 5.0 Vdc, f = 100 MHz)	f _T	100	250	—	MHz
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*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle 2.0%.