

T-29-21

MAXIMUM RATINGS

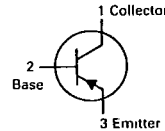
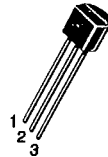
Rating	Symbol	BC 486	BC 488	BC 490	Unit
Collector-Emitter Voltage	V_{CEO}	45	60	80	Vdc
Collector-Base Voltage	V_{CBO}	45	60	80	Vdc
Emitter-Base Voltage	V_{EBO}	4.0			Vdc
Collector Current - Continuous	I_C	0.5			Adc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	625	5.0		mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.5	12		Watt mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150			$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$

BC486, A, B, L
BC488, A, B, L
BC490, A, B, L

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



HIGH CURRENT TRANSISTORS

PNP SILICON

Refer to MPSA55 for graphs.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage* ($I_C = 10 \text{ mAdc}$, $I_B = 0$)	$V_{(BR)CEO}$	45 60 80	— — —	— — —	Vdc
Collector-Base Breakdown Voltage ($I_C = 100 \mu\text{Adc}$, $I_E = 0$)	$V_{(BR)CBO}$	45 60 80	— — —	— — —	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \mu\text{Adc}$, $I_C = 0$)	$V_{(BR)EBO}$	4.0	—	—	Vdc
Collector Cutoff Current $V_{CB} = 30 \text{ Vdc}$ - $I_E = 0$ BC486 $V_{CB} = 40 \text{ Vdc}$ - $I_E = 0$ BC488 $V_{CB} = 60 \text{ Vdc}$ - $I_E = 0$ BC490	I_{CBO}	— — —	— — —	100 100 100	nAdc
ON CHARACTERISTICS*					
DC Current Gain ($I_C = 10 \text{ mAdc}$ - $V_{CE} = 2.0 \text{ Vdc}$) ($I_C = 100 \text{ mAdc}$ - $V_{CE} = 2.0 \text{ Vdc}$) BC486/488/490 BC486L/488L/490L BC486A/488A/490A BC486B/488B/490B ($I_C = 1 \text{ Adc}$ - $V_{CE} = 5.0 \text{ Vdc}$)	h_{FE}	40 60 60 100 160 15	— 100 140 260	400 150 250 400	
Collector Emitter Saturation Voltage ($I_C = 500 \text{ mAdc}$ - $I_B = 50 \text{ mAdc}$) ($I_C = 1 \text{ Adc}$ - $I_B = 100 \text{ mAdc}$)	$V_{CE(sat)}$	— —	0.25 0.50	0.50 —	Vdc
Base Emitter Saturation Voltage ($I_C = 500 \text{ mAdc}$, $I_B = 50 \text{ mAdc}$) ($I_C = 1 \text{ Adc}$ - $I_B = 100 \text{ mAdc}$)	$V_{BE(sat)}$	—	0.90 1.00	1.20	Vdc
DYNAMIC CHARACTERISTICS					
Current-Gain-Bandwidth Product ($I_C = 50 \text{ mAdc}$, $V_{CE} = 2.0 \text{ Vdc}$, $f = 100 \text{ MHz}$)	f_T	—	150	—	MHz
Output Capacitance ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 1.0 \text{ MHz}$)	C_{ob}	—	9	—	pF
Input Capacitance ($V_{BE} = 0.5 \text{ Vdc}$, $I_C = 0$, $f = 1.0 \text{ MHz}$)	C_{ib}	—	110	—	pF

* Pulse test - Pulse width = 300 μs - Duty Cycle 2%.