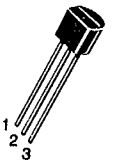
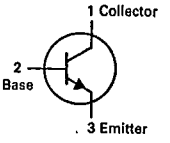
BC485, A, B, L
BC487, A, B, L
BC489, A, B, L

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





HIGH CURRENT TRANSISTORS

NPN SILICON

2

MAXIMUM RATINGS

Rating	Symbol	BC 485	BC 487	BC 489	Unit
Collector-Emitter Voltage	V_{CEO}	45	60	80	Vdc
Collector-Base Voltage	V_{CBO}	45	60	80	Vdc
Emitter-Base Voltage	V_{EBO}	5.0			Vdc
Collector Current – Continuous	I_C	0.5			Adc
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	$R_{\theta JC}$	83.3	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	°C/W

Refer to MPSA05 for graphs.

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

Characteristic		Symbol	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage* (I_C = 10 mAdc, I_B = 0)	BC485	$V_{(BR)CEO}$	45	—	—	Vdc
	BC487		60	—	—	
	BC489		80	—	—	
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	BC485	$V_{(BR)CBO}$	45	—	—	Vdc
	BC487		60	—	—	
	BC489		80	—	—	
Emitter-Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)		$V_{(BR)EBO}$	5.0	—	—	Vdc
Collector Cutoff Current		I_{CBO}				nAdc
V_{CB} = 30 Vdc – I_E = 0	BC485		—	—	100	
V_{CB} = 40 Vdc – I_E = 0	BC487		—	—	100	
V_{CB} = 60 Vdc – I_E = 0	BC489		—	—	100	
ON CHARACTERISTICS*						
DC Current Gain		h_{FE}				
(I_C = 10 mAdc – V_{CE} = 2.0 Vdc)			40			
(I_C = 100 mAdc – V_{CE} = 2.0 Vdc)						
	BC485/487/489		60		400	
	BC485L/487L/489L		60	120	150	
	BC485A/487A/489A		100	160	250	
	BC485B/487B/489B		160	260	400	
(I_C = 1 Adc – V_{CE} = 5.0 Vdc)*			15			
Collector Emitter Saturation Voltage		$V_{CE(sat)}$				Vdc
(I_C = 500 mAdc – I_B = 50 mAdc)			—	0.2	0.50	
(I_C = 1 Adc – I_B = 100 mAdc)			—	0.3	—	
Base Emitter Saturation Voltage		$V_{BE(sat)}$				Vdc
(I_C = 500 mAdc, I_B = 50 mAdc)			—	0.85	1.20	
(I_C = 1 Adc – I_B = 100 mAdc)*				0.90		
DYNAMIC CHARACTERISTICS						
Current-Gain-Bandwidth Product (I_C = 50 mAdc, V_{CE} = 2.0 Vdc, f = 100 MHz)		f_T	—	200	—	MHz
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 1.0 MHz)		C_{ob}	—	7	—	pF
Input Capacitance (V_{BE} = 0.5 Vdc, I_C = 0, f = 1.0 MHz)		C_{ib}	—	50	—	pF

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