

MAXIMUM RATINGS

Rating	Symbol	2N3498	2N3500	Unit
		2N3499	2N3501	
Collector-Emitter Voltage	V _{CEO}	100	150	Vdc
Collector-Base Voltage	V _{CBO}	100	150	Vdc
Emitter-Base Voltage	V _{EBO}	6.0		Vdc
Collector Current — Continuous	I _C	500	300	mA _{dc}
Total Device Dissipation (@ T _A = 25°C Derate above 25°C	P _D	1.0 5.71		Watt mW/°C
Total Device Dissipation (@ T _C = 25°C Derate above 25°C	P _D	5.0 28.6		Watts mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +200		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	35	°C/W
Thermal Resistance, Junction to Ambient	R _{θJA}	175	°C/W

2N3498 thru 2N3501

CASE 79-02, STYLE 1
TO-39 (TO-205AD)

GENERAL PURPOSE TRANSISTOR

NPN SILICON

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

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (1) (I _C = 10 mA _{dc} , I _B = 0)	V _{(BR)CEO}	100 150	—	—	Vdc
Collector-Base Breakdown Voltage (I _C = 10 μA _{dc} , I _E = 0)	V _{(BR)CBO}	100 150	—	—	Vdc
Emitter-Base Breakdown Voltage (I _E = 10 μA _{dc} , I _C = 0)	V _{(BR)EBO}	6.0	—	—	Vdc
Collector Cutoff Current (V _{CB} = 50 Vdc, I _E = 0) (V _{CB} = 50 Vdc, I _E = 0, T _A = 150°C) (V _{CB} = 75 Vdc, I _E = 0) (V _{CB} = 75 Vdc, I _E = 0, T _A = 150°C)	I _{CBO}	—	—	0.050 50 0.050 50	μA _{dc}
Emitter Cutoff Current (V _{BE(off)} = 4.0 Vdc, I _C = 0)	I _{EBO}	—	—	25	nA _{dc}
ON CHARACTERISTICS					
DC Current Gain (I _C = 0.1 mA _{dc} , V _{CE} = 10 Vdc)	h _{FE}	2N3498, 2N3500 2N3499, 2N3501	20 35	—	—
(I _C = 1.0 mA _{dc} , V _{CE} = 10 Vdc)		2N3498, 2N3500 2N3499, 2N3501	25 50	—	—
(I _C = 10 mA _{dc} , V _{CE} = 10 Vdc)		2N3498, 2N3500 2N3499, 2N3501	35 75	—	—
(I _C = 150 mA _{dc} , V _{CE} = 10 Vdc)		2N3498, 2N3500 2N3499, 2N3501	40 100	—	120 300
(I _C = 300 mA _{dc} , V _{CE} = 10 Vdc)		2N3500 2N3501	15 20	—	—
(I _C = 500 mA _{dc} , V _{CE} = 10 Vdc)		2N3498 2N3499	15 20	—	—
Collector-Emitter Saturation Voltage (I _C = 10 mA _{dc} , I _B = 1.0 mA _{dc}) (I _C = 50 mA _{dc} , I _B = 5.0 mA _{dc}) (I _C = 150 mA _{dc} , I _B = 15 mA _{dc}) (I _C = 300 mA _{dc} , I _B = 30 mA _{dc})		V _{CE(sat)}	All Types All Types 2N3500, 2N3501 2N3498, 2N3499	— — — —	— — 0.2 0.25 0.4 0.8

