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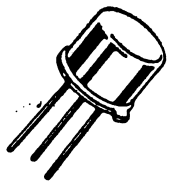
2N3719, 2N3720
2N3867, 2N3868
2N6303



3 AMPERE

POWER TRANSISTORS
PNP SILICON

40,60,80 VOLTS
6 WATTS

***MAXIMUM RATINGS**

Rating	Symbol	2N3719 2N3867	2N3720 2N3868	2N6303	Unit
Collector Emitter Voltage	V_{CEO}	40	60	80	Vdc
Collector Base Voltage	V_{CB}	40	60	80	Vdc
Emitter Base Voltage	V_{EB}	← 4.0 →			Vdc
Collector Current - Continuous Peak	I_C	← 3.0 → ← 10 →			Adc
Base Current	I_B	← 0.5 →			Adc
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	← 6.0 → ← 34.3 →			Watts mW/°C
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	← 1.0 → ← 5.71 →			Watt 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	θ_{JC}	29	°C/W
Thermal Resistance, Junction to Ambient	θ_{JA}	175	°C/W

***ELECTRICAL CHARACTERISTICS** (T_C = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage (1) (I_C = 20 mAdc, I_B = 0)	2N3867 2N3868 2N6303	$V_{CEO(sus)}$	40 60 80	– – –	Vdc
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	2N3867 2N3868 2N6303	$V_{(BR)CBO}$	40 60 80	– – –	Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)		$V_{(BR)EBO}$	4.0	–	Vdc
Collector Cutoff Current (V_{CE} = Rated V_{CB}, $V_{BE(off)}$ = 2.0 Vdc)		I_{CEX}	–	1.0	μAdc
Collector Cutoff Current (V_{CB} = Rated V_{CB}, I_E = 0, T_C = 150°C)		I_{CBO}	–	150	μAdc
ON CHARACTERISTICS (1)					
DC Current Gain (I_C = 500 mAdc, V_{CE} = 1.0 Vdc)	2N3867 2N3868, 2N6303	h_{FE}	50 35	– –	–
(I_C = 1.5 Adc, V_{CE} = 2.0 Vdc)	2N3867 2N3868, 2N6303		40 30	200 150	
(I_C = 2.5 Adc, V_{CE} = 3.0 Vdc)	2N3867 2N3868, 2N6303		25 20	– –	
(I_C = 3.0 Adc, V_{CE} = 5.0 Vdc)	2N3867 2N3868, 2N6303		20	–	
Collector-Emitter Saturation Voltage (I_C = 500 mAdc, I_B = 50 mAdc) (I_C = 1.5 Adc, I_B = 150 mAdc) (I_C = 2.5 Adc, I_B = 250 mAdc)		$V_{CE(sat)}$	– – –	0.5 0.75 1.3	Vdc
Base-Emitter Saturation Voltage. (I_C = 500 mAdc, I_B = 50 mAdc) (I_C = 1.5 Adc, I_B = 150 mAdc) (I_C = 2.5 Adc, I_B = 250 mAdc)		$V_{BE(sat)}$	– 0.9 –	1.0 1.4 2.0	Vdc
DYNAMIC CHARACTERISTICS					
Current-Gain – Bandwidth Product (2) (I_C = 100 mAdc, V_{CE} = 5.0 Vdc, f_{test} = 20 MHz)		f_T	60	–	MHz
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 0.1 MHz)		C_{ob}	–	120	pF
Input Capacitance (V_{EB} = 3.0 Vdc, I_C = 0, f = 0.1 MHz)		C_{ib}	–	1000	pF
SWITCHING CHARACTERISTICS					
Delay Time	(V_{CC} = 30 Vdc, $V_{BE(off)}$ = 0, I_C = 1.5 Adc, I_{B1} = 150 mAdc)	t_d	–	35	ns
Rise Time		t_r	–	65	ns
Storage Time	(V_{CC} = 30 Vdc, I_C = 1.5 Adc, I_{B1} = I_{B2} = 150 mAdc)	t_s	–	325	ns
Fall Time		t_f	–	75	ns

Quality Semi-Conductors