

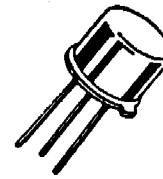
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3 AMPERE
POWER TRANSISTORS
PNP SILICON

40,60,80 VOLTS
6 WATTS

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



***MAXIMUM RATINGS**

Rating	Symbol	2N3719 2N3867	2N3720 2N3868	2N6303	Unit
Collector-Emitter Voltage	V _{CEO}	40	60	80	V _{dc}
Collector-Base Voltage	V _{CB}	40	60	80	V _{dc}
Emitter-Base Voltage	V _{EB}	4.0			V _{dc}
Collector Current - Continuous	I _C	3.0			A _{dc}
Collector Current - Peak	I _C	10			A _{dc}
Base Current	I _B	0.5			A _{dc}
Total Device Dissipation @ T _C = 25°C	P _D	6.0			Watts
Derate above 25°C	P _D	34.3			mW/°C
Total Device Dissipation @ T _A = 25°C	P _D	1.0			Watt
Derate above 25°C	P _D	5.71			mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-55 to +200			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ _{JC}	28	°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
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OFF CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Sustaining Voltage (1) (I _C = 20 mA _{dc} , I _B = 0)	V _{CEO(sus)}	40 60 80	-	V _{dc}
Collector-Base Breakdown Voltage (I _C = 100 μA _{dc} , I _B = 0)	V _{(BR)CBO}	40 60 80	-	V _{dc}
Emitter-Base Breakdown Voltage (I _E = 100 μA _{dc} , I _C = 0)	V _{(BR)EBO}	4.0	-	V _{dc}
Collector Cutoff Current (V _{CE} = Rated V _{CB} , V _{BE(off)} = 2.0 V _{dc})	I _{CEX}	-	1.0	μA _{dc}
Collector Cutoff Current (V _{CB} = Rated V _{CB} , I _E = 0, T _C = 150°C)	I _{CBO}	-	150	μA _{dc}

ON CHARACTERISTICS (1)

Characteristic	Symbol	Min	Max	Unit
DC Current Gain (I _C = 500 mA _{dc} , V _{CE} = 1.0 V _{dc})	h _{FE}	50	-	-
(I _C = 1.5 A _{dc} , V _{CE} = 2.0 V _{dc})	h _{FE}	35	-	-
(I _C = 2.5 A _{dc} , V _{CE} = 3.0 V _{dc})	h _{FE}	40	200	-
(I _C = 3.0 A _{dc} , V _{CE} = 5.0 V _{dc})	h _{FE}	30	150	-
Collector-Emitter Saturation Voltage (I _C = 500 mA _{dc} , I _B = 50 mA _{dc})	V _{CE(sat)}	-	0.5	V _{dc}
(I _C = 1.5 A _{dc} , I _B = 150 mA _{dc})	V _{CE(sat)}	-	0.75	V _{dc}
(I _C = 2.5 A _{dc} , I _B = 250 mA _{dc})	V _{CE(sat)}	-	1.3	V _{dc}
Base-Emitter Saturation Voltage (I _C = 500 mA _{dc} , I _B = 50 mA _{dc})	V _{BE(sat)}	-	1.0	V _{dc}
(I _C = 1.5 A _{dc} , I _B = 150 mA _{dc})	V _{BE(sat)}	0.9	1.4	V _{dc}
(I _C = 2.5 A _{dc} , I _B = 250 mA _{dc})	V _{BE(sat)}	-	2.0	V _{dc}

DYNAMIC CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Current Gain - Bandwidth Product (2) (I _C = 100 mA _{dc} , V _{CE} = 5.0 V _{dc} , f _{test} = 20 MHz)	f _T	60	-	MHz
Output Capacitance (V _{CB} = 10 V _{dc} , I _B = 0, f = 0.1 MHz)	C _{ob}	-	120	pF
Input Capacitance (V _{EB} = 3.0 V _{dc} , I _C = 0, f = 0.1 MHz)	C _{ib}	-	1000	pF

SWITCHING CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Delay Time (V _{CC} = 30 V _{dc} , V _{BE(off)} = 0, I _C = 1.5 A _{dc} , I _{B1} = 150 mA _{dc})	t _d	-	35	ns
Rise Time (I _C = 1.5 A _{dc} , I _{B1} = 150 mA _{dc})	t _r	-	65	ns
Storage Time (V _{CC} = 30 V _{dc} , I _C = 1.5 A _{dc} , I _{B1} = I _{B2} = 150 mA _{dc})	t _s	-	325	ns
Fall Time (I _{B1} = I _{B2} = 150 mA _{dc})	t _f	-	75	ns



Quality Semi-Conductors