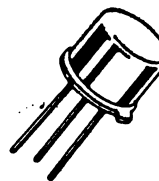


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**2N3719, 2N3720  
 2N3867, 2N3868  
 2N6303**



**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 <sub>CEO</sub>	40	60	80	V <sub>d</sub> c
Collector-Base Voltage	V <sub>CB</sub>	40	60	80	V <sub>d</sub> c
Emitter-Base Voltage	V <sub>EB</sub>	4.0			V <sub>d</sub> c
Collector Current - Continuous	I <sub>C</sub>	3.0			A <sub>d</sub> c
Collector Current - Peak	I <sub>C</sub>	1.0			A <sub>d</sub> c
Base Current	I <sub>B</sub>	0.5			A <sub>d</sub> c
Total Device Dissipation @ T <sub>C</sub> = 25°C	P <sub>D</sub>	6.0			Watts
Derate above 25°C		34.3			mW/°C
Total Device Dissipation @ T <sub>A</sub> = 25°C	P <sub>D</sub>	1.0			Watt
Derate above 25°C		5.71			mW/°C
Operating and Storage Junction Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	65 to +200			°C

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ <sub>JC</sub>	29	°C/W
Thermal Resistance, Junction to Ambient	θ <sub>JA</sub>	175	°C/W

**\*ELECTRICAL CHARACTERISTICS (T<sub>C</sub> = 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 <sub>C</sub> = 20 mA <sub>d</sub> c, I <sub>B</sub> = 0)	V <sub>CEO(sus)</sub>	40 60 80	-	V <sub>d</sub> c
Collector-Base Breakdown Voltage (I <sub>C</sub> = 100 μA <sub>d</sub> c, I <sub>E</sub> = 0)	V <sub>(BR)CBO</sub>	40 60 80	-	V <sub>d</sub> c
Emitter-Base Breakdown Voltage (I <sub>E</sub> = 100 μA <sub>d</sub> c, I <sub>C</sub> = 0)	V <sub>(BR)EBO</sub>	4.0	-	V <sub>d</sub> c
Collector Cutoff Current (V <sub>CE</sub> = Rated V <sub>CB</sub> , V <sub>BE(off)</sub> = 2.0 V <sub>d</sub> c)	I <sub>CEX</sub>	-	1.0	μA <sub>d</sub> c
Collector Cutoff Current (V <sub>CB</sub> = Rated V <sub>CB</sub> , I <sub>E</sub> = 0, T <sub>C</sub> = 150°C)	I <sub>CBO</sub>	-	150	μA <sub>d</sub> c

**ON CHARACTERISTICS (1)**

Characteristic	Symbol	Min	Max	Unit
DC Current Gain (I <sub>C</sub> = 500 mA <sub>d</sub> c, V <sub>CE</sub> = 1.0 V <sub>d</sub> c)	h <sub>FE</sub>	50 35	-	-
(I <sub>C</sub> = 1.5 A <sub>d</sub> c, V <sub>CE</sub> = 2.0 V <sub>d</sub> c)		40 30	200 150	
(I <sub>C</sub> = 2.5 A <sub>d</sub> c, V <sub>CE</sub> = 3.0 V <sub>d</sub> c)		25 20	-	
(I <sub>C</sub> = 3.0 A <sub>d</sub> c, V <sub>CE</sub> = 5.0 V <sub>d</sub> c)		20	-	
Collector-Emitter Saturation Voltage (I <sub>C</sub> = 500 mA <sub>d</sub> c, I <sub>B</sub> = 50 mA <sub>d</sub> c)	V <sub>CE(sat)</sub>	-	0.5	V <sub>d</sub> c
(I <sub>C</sub> = 1.5 A <sub>d</sub> c, I <sub>B</sub> = 150 mA <sub>d</sub> c)		-	0.75	
(I <sub>C</sub> = 2.5 A <sub>d</sub> c, I <sub>B</sub> = 250 mA <sub>d</sub> c)		-	1.3	
Base-Emitter Saturation Voltage (I <sub>C</sub> = 500 mA <sub>d</sub> c, I <sub>B</sub> = 50 mA <sub>d</sub> c)	V <sub>BE(sat)</sub>	-	1.0	V <sub>d</sub> c
(I <sub>C</sub> = 1.5 A <sub>d</sub> c, I <sub>B</sub> = 150 mA <sub>d</sub> c)		0.9	1.4	
(I <sub>C</sub> = 2.5 A <sub>d</sub> c, I <sub>B</sub> = 250 mA <sub>d</sub> c)		-	2.0	

**DYNAMIC CHARACTERISTICS**

Characteristic	Symbol	Min	Max	Unit
Current Gain - Bandwidth Product (2) (I <sub>C</sub> = 100 mA <sub>d</sub> c, V <sub>CE</sub> = 5.0 V <sub>d</sub> c, f <sub>test</sub> = 20 MHz)	f <sub>T</sub>	60	-	MHz
Output Capacitance (V <sub>CB</sub> = 10 V <sub>d</sub> c, I <sub>E</sub> = 0, f = 0.1 MHz)	C <sub>ob</sub>	-	120	pF
Input Capacitance (V <sub>EB</sub> = 3.0 V <sub>d</sub> c, I <sub>C</sub> = 0, f = 0.1 MHz)	C <sub>ib</sub>	-	1000	pF

**SWITCHING CHARACTERISTICS**

Characteristic	Symbol	Min	Max	Unit
Delay Time (V <sub>CC</sub> = 30 V <sub>d</sub> c, V <sub>BE(off)</sub> = 0, I <sub>C</sub> = 1.5 A <sub>d</sub> c, I <sub>B1</sub> = 150 mA <sub>d</sub> c)	t <sub>d</sub>	-	35	ns
Rise Time	t <sub>r</sub>	-	65	ns
Storage Time (V <sub>CC</sub> = 30 V <sub>d</sub> c, I <sub>C</sub> = 1.5 A <sub>d</sub> c, I <sub>B1</sub> = I <sub>B2</sub> = 150 mA <sub>d</sub> c)	t <sub>s</sub>	-	325	ns
Fall Time	t <sub>f</sub>	-	75	ns



**Quality Semi-Conductors**