

2N5190 thru 2N5192
SILICON NPN POWER TRANSISTORS

* MAXIMUM RATINGS

Rating	Symbol	2N5190	2N5191	2N5192	Unit
Collector-Emitter Voltage	V _{CEO}	40	60	80	Vdc
Collector-Base Voltage	V _{CB}	40	60	80	Vdc
Emitter-Base Voltage	V _{EB}	5.0			Vdc
Collector Current	I _C	4.0			Aric
Base Current	I _B	1.0			Aric
Total Power Dissipation @ T _C = 25°C Derate above 25°C	P _D	40	320		Watts mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +150			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ _{JC}	1.12	°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 = 0.1 Adc, I _B = 0)	V _{CEO(sus)}	40 60 80	-	Vdc
Collector Cutoff Current (V _{CE} = 40 Vdc, I _B = 0) (V _{CE} = 60 Vdc, I _B = 0) (V _{CE} = 80 Vdc, I _B = 0)	I _{CEO}	-	1.0 1.0 1.0	mAric
Collector Cutoff Current (V _{CE} = 40 Vdc, V _{EB(off)} = 1.5 Vdc) (V _{CE} = 60 Vdc, V _{EB(off)} = 1.5 Vdc) (V _{CE} = 80 Vdc, V _{EB(off)} = 1.5 Vdc) (V _{CE} = 40 Vdc, V _{EB(off)} = 1.5 Vdc, T _C = 125°C) (V _{CE} = 60 Vdc, V _{EB(off)} = 1.5 Vdc, T _C = 125°C) (V _{CE} = 80 Vdc, V _{EB(off)} = 1.5 Vdc, T _C = 125°C)	I _{CEX}	-	0.1 0.1 0.1 2.0 2.0 2.0	mAric
Collector Cutoff Current (V _{CB} = 40 Vdc, I _E = 0) (V _{CB} = 60 Vdc, I _E = 0) (V _{CB} = 80 Vdc, I _E = 0)	I _{CBO}	-	0.1 0.1 0.1	mAric
Emitter Cutoff Current (V _{BE} = 5.0 Vdc, I _C = 0)	I _{EBO}	-	1.0	mAric

ON CHARACTERISTICS

DC Current Gain (1) (I _C = 1.5 Adc, V _{CE} = 2.0 Vdc)	h _{FE}	25	100	-
		25	100	
		20	80	
		10		
		10		
		7.0		
Collector-Emitter Saturation Voltage (1) (I _C = 1.5 Adc, I _B = 0.15 Adc) (I _C = 4.0 Adc, I _B = 1.0 Adc)	V _{CE(sat)}	-	0.6 1.4	Vdc
Base-Emitter On Voltage (1) (I _C = 1.5 Adc, V _{CE} = 2.0 Vdc)	V _{BE(on)}	-	1.2	Vdc

DYNAMIC CHARACTERISTICS

Current-Gain-Bandwidth Product (I _C = 1.0 Adc, V _{CE} = 10 Vdc, f = 1.0 MHz)	f _T	20	-	MHz
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(1) Pulse Test: Pulse Width < 300 μs, Duty Cycle < 2.0%.
* Indicates JEDEC Registered Data

