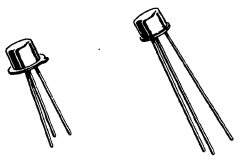
2N718 (SILICON)
2N1420



NPN silicon annular Star transistors for medium-current switching and amplifier applications.

2N718 **CASE 22** (TO-18)
2N1420 **CASE 31** (TO-5)
Collector connected to case

MAXIMUM RATINGS

Rating	Symbol	Value		Unit
Collector-Base Voltage	V_{CB}	60		Vdc
Collector-Emitter Voltage 2N718 2N1420	V_{CER}	 40 30		Vdc
Emitter-Base Voltage	V_{EB}	5.0		Vdc
		2N1420 TO-5	2N718 TO-18	
Total Device Dissipation at 25°C Case Temperature Derating Factor Above 25°C	P_D	3.0 20	1.5 10	Watts mW/°C
Total Device Dissipation at 25°C Ambient Temperatures Derating Factor Above 25°C	P_D	0.6 4.0	0.4 2.66	Watts mW/°C
Junction Temperature	T_J	+175		°C
Storage Temperature range	T_{stg}	-65 to +200		°C

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

Characteristic	Symbol	Min	Typ	Max	Unit
Collector Cutoff Current (V_{CB} = 30 Vdc, I_E = 0) (V_{CB} = 30 Vdc, I_E = 0, T_A = 150°C)	I_{CBO}	 – –	 .001 –	 1.0 100	μAdc
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	BV_{CBO}	60	–	–	Vdc
Collector-Emitter Breakdown Voltage (I_C = 100 mAdc, pulsed; $R_B \leq$ 10 Ohms) 2N718 2N1420	BV_{CER}	 40 30	 – –	 – –	Vdc
Collector-Emitter Saturation Voltage [1] (I_C = 150 mAdc, I_B = 15 mAdc)	$V_{CE(sat)}$	–	0.3	1.5	Vdc
Base-Emitter Saturation Voltage [1] (I_C = 150 mAdc, I_B = 15 mAdc)	$V_{BE(sat)}$	–	–	1.3	Vdc

[1] **Pulse Test: PW ≤ 300 μs, Duty Cycle ≤ 2%**

ELECTRICAL CHARACTERISTICS (continued)

Characteristic	Symbol	Min	Typ	Max	Unit
DC Forward Current Transfer Ratio[1] (I_C = 1 mAdc, V_{CE} = 10 Vdc)	h_{FE}				–
2N718		–	20	–	
2N1420		–	35	–	
(I_C = 150 mAdc, V_{CE} = 10 Vdc)					
2N718		40	–	120	
2N1420		100	–	300	
(I_C = 500 mAdc, V_{CE} = 10 Vdc)					
2N718		–	20	–	
2N1420		–	35	–	
Small Signal Forward Current Transfer Ratio (I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 20 MHz)	h_{fe}	2.5	15	–	–
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0)	C_{ob}	–	5.0	35	pF

[1] **Pulse Test: PW ≤ 300 μs, Duty Cycle ≤ 2%**