2N718A
2N956, 2N1711

2N718A JAN, JTX,
JTXV AVAILABLE
CASE 22, STYLE 1
TO-18 (TO-206AA)

GENERAL PURPOSE TRANSISTOR

NPN SILICON

2N718A: See 2N3019 for graphs.

MAXIMUM RATINGS

Rating	Symbol	2N718A 2N956	2N1711	Unit
Collector-Emitter Voltage	V_{CER}	50		Vdc
Collector-Base Voltage	V_{CBO}	75		Vdc
Emitter-Base Voltage	V_{EBO}	7.0		Vdc
Total Device Dissipation @ $T_A = 25°C$ Derate above 25°C	P_D	500 2.86	800 4.57	mW mW/°C
Total Device Dissipation @ $T_C = 25°C$ Derate above 25°C	P_D	1.8 10.3	3.0 17.15	Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +200		°C

ELECTRICAL CHARACTERISTICS ($T_A = 25°C$ unless otherwise noted.)

Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage ($I_C = 100$ mAdc, pulsed; $R_{BE} \leq 10$ ohms)		$V_{CER(sus)}$	50	—	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 100\ \mu$Adc, $I_E = 0$)		$V_{(BR)CBO}$	75	—	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 100\ \mu$Adc, $I_C = 0$)		$V_{(BR)EBO}$	7.0	—	—	Vdc
Collector Cutoff Current		I_{CBO}				μAdc
($V_{CB} = 60$ Vdc, $I_E = 0$)			—	0.001	0.01	
($V_{CB} = 60$ Vdc, $I_E = 0$, $T_A = 150°C$)			—	—	10	
Emitter Cutoff Current		I_{EBO}				μAdc
($V_{BE} = 5.0$ Vdc, $I_C = 0$)	2N718A,		—	—	0.010	
	2N956, 2N1711		—	—	0.005	
ON CHARACTERISTICS						
DC Current Gain		h_{FE}				—
($I_C = 0.01$ mAdc, $V_{CE} = 10$ Vdc)	2N956, 2N1711		20	—	—	
($I_C = 0.1$ mAdc, $V_{CE} = 10$ Vdc)	2N718A,		20	—	—	
	2N956, 2N1711		35	—	—	
($I_C = 10$ mAdc, $V_{CE} = 10$ Vdc)	2N718A,		35	—	—	
	2N956, 2N1711		75	—	—	
($I_C = 10$ mAdc, $V_{CE} = 10$ Vdc, $T_A = -55°C$)	2N718A,		20	—	—	
	2N956, 2N1711		35	—	—	
($I_C = 150$ mAdc, $V_{CE} = 10$ Vdc)	2N718A,		40	—	120	
	2N956, 2N1711		100	—	300	
($I_C = 500$ mAdc, $V_{CE} = 10$ Vdc)	2N718A,		20	—	—	
	2N956, 2N1711		40	—	—	
Collector-Emitter Saturation Voltage(1) ($I_C = 150$ mAdc, $I_B = 15$ mAdc)		$V_{CE(sat)}$	—	0.24	1.5	Vdc
Base-Emitter Saturation Voltage(1) ($I_C = 150$ mAdc, $I_B = 15$ mAdc)		$V_{BE(sat)}$	—	1.0	1.3	Vdc

(1) Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

ELECTRICAL CHARACTERISTICS (continued) (T_A = 25°C unless otherwise noted.)

Characteristic		Symbol	Min	Typ	Max	Unit
SMALL-SIGNAL CHARACTERISTICS						
Current-Gain — Bandwidth Product (I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 20 MHz)	2N718A,	f_T	60	300	—	MHz
	2N956, 2N1711		70	300		
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 100 kHz)		C_{obo}	—	4.0	25	pF
Input Capacitance (V_{BE} = 0.5 Vdc, I_C = 0, f = 100 kHz)		C_{ibo}	—	20	80	pF
Input Impedance (I_C = 1.0 mAdc, V_{CB} = 5.0 Vdc, f = 1.0 kHz)		h_{ib}	24	—	34	ohms
(I_C = 5.0 mAdc, V_{CB} = 10 Vdc, f = 1.0 kHz)			4.0	—	8.0	
Voltage Feedback Ratio (I_C = 1.0 mAdc, V_{CB} = 5.0 Vdc, f = 1.0 kHz)	2N718A,	h_{rb}	—	—	3.0	X 10^{-4}
	2N956, 2N1711		—	—	5.0	
(I_C = 5.0 mAdc, V_{CB} = 10 Vdc, f = 1.0 kHz)	2N718A,		—	—	3.0	
	2N956, 2N1711		—	—	5.0	
Small-Signal Current Gain (I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc, f = 1.0 kHz)	2N718A,	h_{fe}	30	—	100	—
	2N956, 2N1711		50	—	200	
(I_C = 5.0 mAdc, V_{CE} = 10 Vdc, f = 1.0 kHz)	2N718A,		35	—	150	
	2N956, 2N1711		70	—	300	
Output Admittance (I_C = 1.0 mAdc, V_{CB} = 5.0 Vdc, f = 1.0 kHz)		h_{ob}	0.05	—	0.5	μmhos
(I_C = 5.0 mAdc, V_{CB} = 10 Vdc, f = 1.0 kHz)			0.05	—	0.5	
Noise Figure (I_C = 300 μAdc, V_{CE} = 10 Vdc, f = 1.0 kHz)	2N718A,	NF	—	—	12	dB
	2N956, 2N1711		—	—	8.0	