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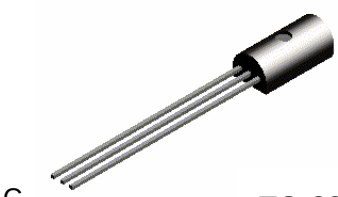
SEMICONDUCTOR TM

TN6718A



TO-226

NPN General Purpose Amplifier

This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 1.0A. Sourced from Process 39. See TN6717A for characteristics.

Absolute Maximum Ratings* $T_{A = 25°C \text{ unless otherwise noted}}$

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	100	V
V_{CBO}	Collector-Base Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current - Continuous	1.2	A
$T_{J, Tstg}$	Operating and Storage Junction Temperature Range	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 150°C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics $T_{A = 25°C \text{ unless otherwise noted}}$

Symbol	Characteristic	Max	Units
		TN6718A	
P_D	Total Device Dissipation Derate above 25°C	1 8	W mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	50	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	°C/W

NPN General Purpose Amplifier
(continued)

Electrical Characteristics
$T_{A = 25°C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10 mA	100		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 100 μA	100		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 100 μA	5		V
I_{CBO}	Collector Cutoff Current	V_{CB} =80 V		100	nA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 5 V		10	uA
ON CHARACTERISTICS					
h_{FE}	DC Current Gain	I_C = 50 mA, V_{CE} = 1 V I_C = 250 mA, V_{CE} = 1 V I_C = 500 mA, V_{CE} = 1 V	80 50 20	250	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 250 mA, I_B = 10 mA I_C = 250 mA, I_B = 25 mA		0.5 0.35	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C = 250 mA, V_{CE} = 1 V		1.2	V
SMALL SIGNAL CHARACTERISTICS					
C_{cb}	Output Capacitance	V_{CB} = 10 V, I_E = 0, f = 1MHz		30	pF
h_{fe}	Small Signal Current Gain	I_C = 200 mA, V_{CE} = 5 V, f=20MHz	2.5	25	-

*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 1.0%

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