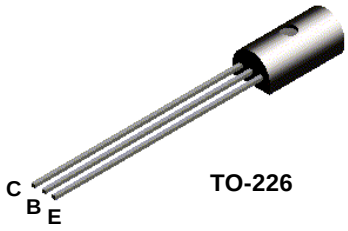
FAIRCHILD SEMICONDUCTOR TM

Discrete POWER & Signal Technologies

TN6719A



TO-226

NPN High Voltage Amplifier

This device is designed for use in high voltage applications .
Sourced from Process 48. See MPSA42 for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	300	V
V_{CBO}	Collector-Base Voltage	300	V
V_{EBO}	Emitter-Base Voltage	7.0	V
I_C	Collector Current - Continuous	200	mA
T_J, T_{stg}	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 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		TN6719A	
P_D	Total Device Dissipation Derate above 25°C	1.0 8.0	W mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	50	°C/W

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NPN High Voltage Amplifier

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage*	I_C = 1.0 mA, I_B = 0	300		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = 100 µA, I_E = 0	300		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = 1.0 mA, I_C = 0	7.0		V
I_{CBO}	Collector Cutoff Current	V_{CB} = 200 V, I_E = 0		100	nA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 6.0 V, I_C = 0		100	nA
ON CHARACTERISTICS*					
h_{FE}	DC Current Gain	V_{CE} = 10 V, I_C = 1.0 mA V_{CE} = 10 V, I_C = 10 mA V_{CE} = 10 V, I_C = 30 mA	25 40 40	 200	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 30 mA, I_B = 3.0 mA		0.75	V
$V_{BE(on)}$	Base-Emitter On Voltage	V_{CE} = 10 V, I_C = 30 mA		0.85	V
SMALL SIGNAL CHARACTERISTICS					
C_{cb}	Collector-Base Capacitance	V_{CB} = 20 V, f = 1.0 MHz		3.5	pF
h_{fe}	Small-Signal Current Gain	I_C = 15 mA, V_{CE} = 100 V, f = 20 MHz	1.5	15	

*Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 2.0%