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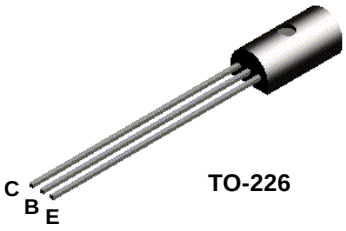
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

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

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%

PUBLICATION ORDERING INFORMATION

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