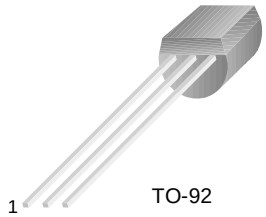
FAIRCHILD
SEMICONDUCTOR®

MPSA43

NPN High Voltage Amplifier

- This device is designed for application as a video output to drive color CRT and other high voltage applications.
- Sourced from process 48.
- See MPSA42 for characteristics.



TO-92

1. Emitter 2. Base 3. Collector

Absolute Maximum Ratings * T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CES}	Collector-Emitter Voltage	200	V
V_{CBO}	Collector-Base Voltage	200	V
V_{EBO}	Emitter-Base Voltage	6.0	V
I_C	Collector Current - Continuous	200	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ +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.

Electrical Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage *	I_C = 1.0mA, I_B = 0	200		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = 100µA, I_E = 0	200		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_C = 100µA, I_C = 0	6.0		V
I_{CBO}	Collector Cutoff Current	V_{CB} = 160V, I_E = 0		0.1	µA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 4.0V, I_C = 0		0.1	µA
On Characteristics *					
h_{FE}	DC Current Gain	I_C = 1.0mA, V_{CE} = 10V I_C = 10mA, V_{CE} = 10V I_C = 30mA, V_{CE} = 10V	25 40 50	 200	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 20mA, I_B = 2.0mA		0.4	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 20mA, I_B = 2.0mA		0.9	V
Small Signal Characteristics *					
f_T	Current Gain Dandwidth Product	I_C = 10mA, V_{CE} = 20V, f = 100MHz	50		MHz
C_{cb}	Collector-Base Capacitance	V_{CB} = 20V, I_E = 0, f = 1.0MHz		4.0	pF

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

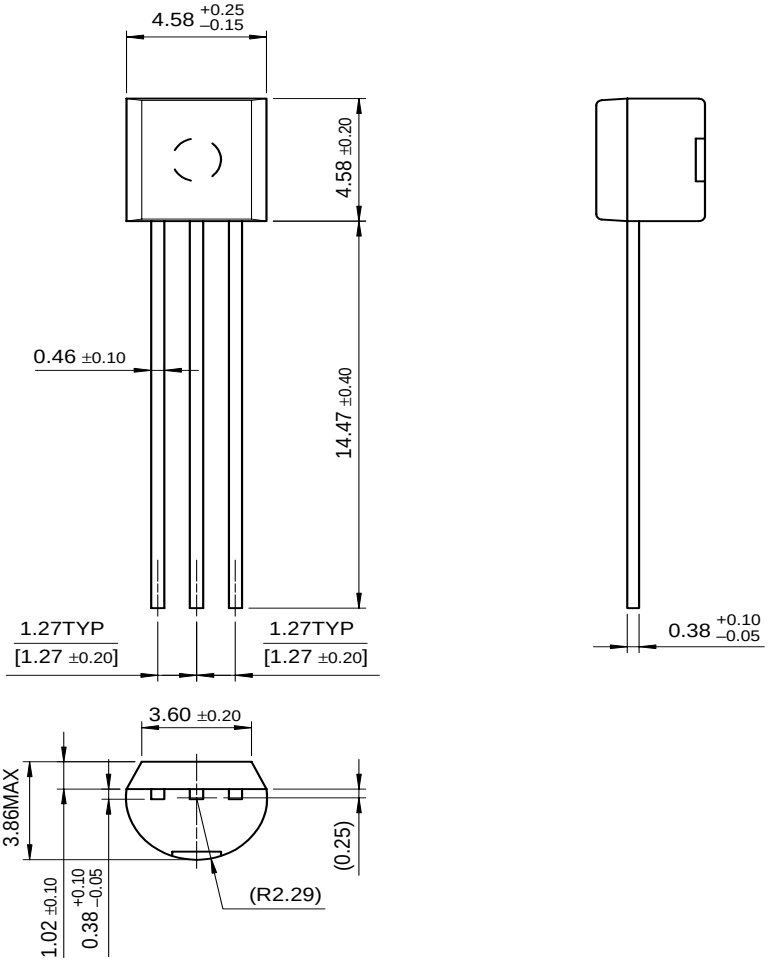
Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	°C/W

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Package Dimensions

TO-92



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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Definition of Terms

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

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