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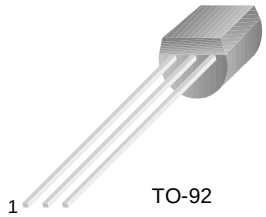
2N3820

P-Channel General Purpose Amplifier

- This device is designed primarily for low level audio and general purpose applications with high impedance signal sources.
- Sourced from process 89.



TO-92

1. Drain 2. Gate 3. Source

Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	Units
V_{DG}	Drain-Gate Voltage	-20	V
V_{GS}	Gate-Source Voltage	20	V
I_{GF}	Forward Gate Current	10	mA
T_{STG}	Storage Temperature Range	-55 ~ 150	°C

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

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

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)GSS}$	Gate-Source Breakdwon Voltage	I_G = 10μA, V_{DS} = 0	20			V
I_{GSS}	Gate Reverse Current	V_{GS} = 10V, V_{DS} = 0			20	nA
V_{GS}(off)	Gate-Source Cutoff Voltage	V_{DS} = -10V, I_D = -10μA			8.0	V
On Characteristics						
I_{DSS}	Zero-Gate Voltage Drain Current *	V_{DS} = -10V, V_{GS} = 0	-0.3		-15	mA
Small Signal Characteristics						
gfs	Forward Transfer Conductance	V_{DS} = -10V, V_{GS} = 0, f = 1.0KHz	800		5000	μmhos
C_{iss}	Input Capacitance	V_{DS} = -10V, V_{GS} = 0, f = 1.0KHz			32	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = -10V, V_{GS} = 0, f = 1.0KHz			16	pF

* Pulse Test: Pulse Width ≤ 300ms, Duty Cycle ≤ 2%

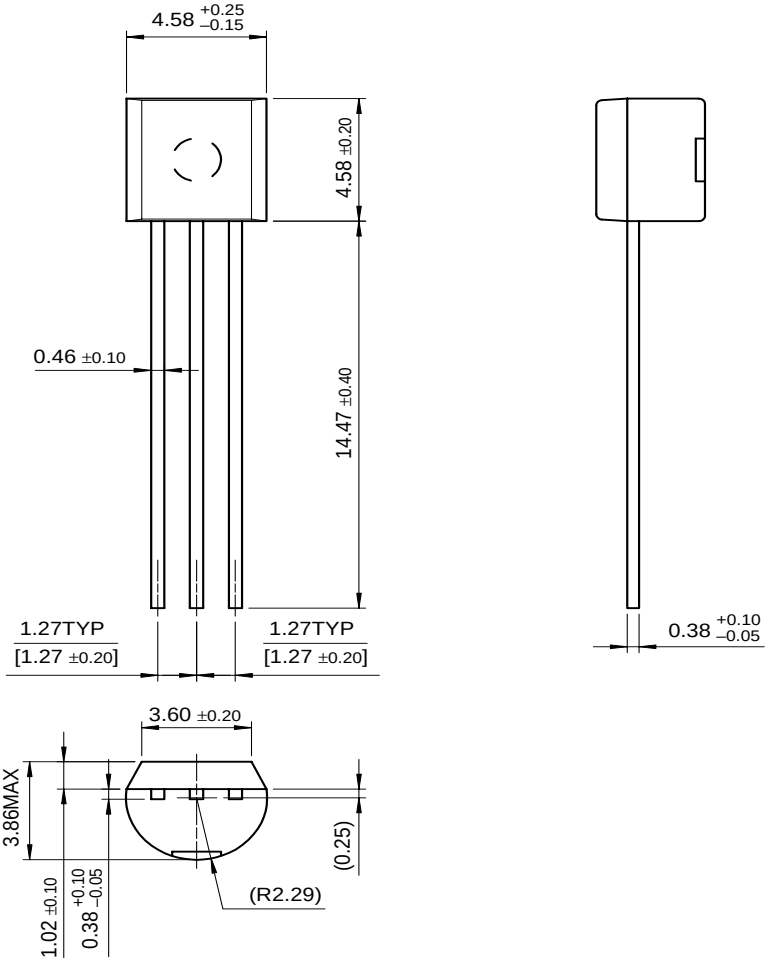
Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

* Device mounted on FR-4 PCB 1.6" × 1.6" × 0.06"

Package Dimensions

TO-92



Dimensions in Millimeters

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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.
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