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[Fairchild Semiconductor](#)

[P1087](#)

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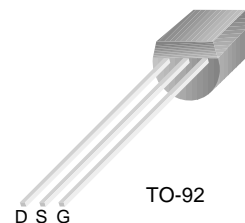
sales@integrated-circuit.com



P1087

P-Channel Switch

- This device is designed for low level analog switching sample and hold circuits and chopper stabilized amplifiers.
- Sourced from process 88.



Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{DG}	Drain-Gate Voltage	-30	V
V_{GS}	Gate-Source Voltage	30	V
I_{GF}	Forward Gate Current	50	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ +150	$^\circ\text{C}$

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

NOTES:

- These ratings are based on a maximum junction temperature of 150 degrees C.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

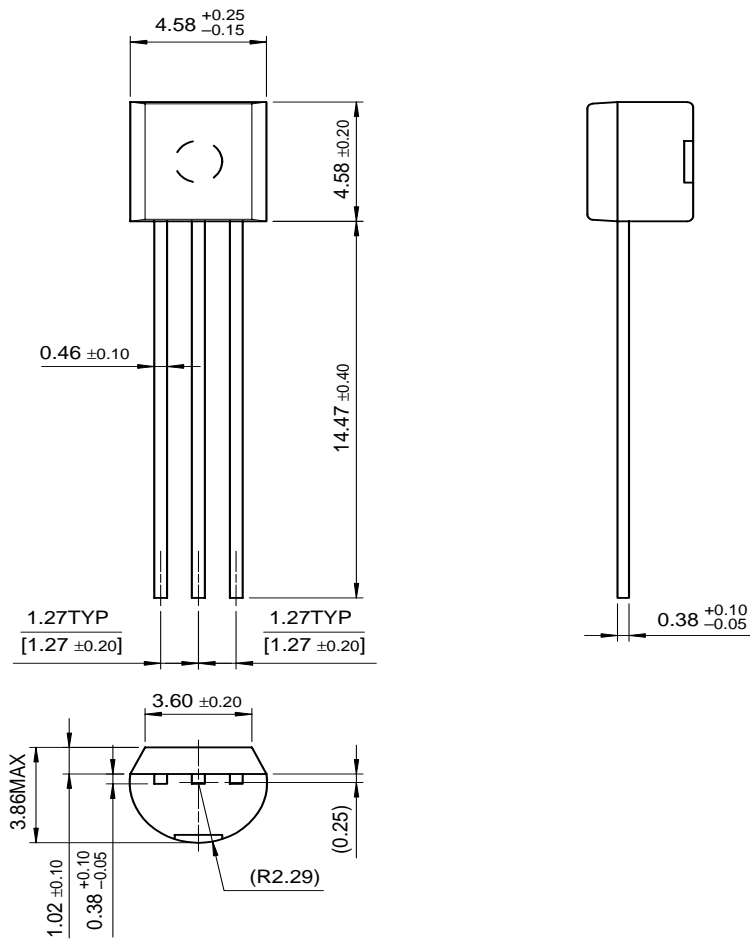
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{GSS}	Gate-Source Breakdown Voltage	$V_{DS} = 0V, I_G = 1\mu\text{A}$	30			V
I_{GSS}	Gate Reverse Current	$V_{GS} = 15V$			2	nA
$I_{D(off)}$	Drain Cutoff Leakage Current	$V_{DS} = 15V$ $V_{GS} = 7V$			10	nA
		$T = +85^\circ\text{C}$			0.5	μA
I_{DGO}	Drain-Gate Leakage Current	$V_{DG} = 15V$ $I_S = 0$			2	nA
		$T = +85^\circ\text{C}$			0.1	μA
I_{DSS}	Zero-Gate Voltage Drain Current	$V_{DS} = 20V, V_{GS} = 0V$	5			mA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15V, I_D = 1\mu\text{A}$			5	V
$V_{DS(on)}$	Drain-Source On Voltage	$V_{GS} = 0V, I_D = 3mA$			0.5	V
$r_{DS(on)}$	Drain-Source On Resistance	$V_{GS} = 0V, I_D = 1mA$			150	Ω
$r_{ds(on)}$	Drain-Source On Resistance	$V_{GS} = 0V, I_D = 0, f = 1kHz$			150	Ω
C_{iss}	Input Capacitance	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$			45	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 0V, V_{GS} = 7V, f = 1MHz$			10	pF
$t_d(on)$	Trun On Time	$V_{DD} = -6V$			15	ns
t_r	Rise Time	$V_{GS(off)} = +7V$			75	ns
$t_d(off)$	Trun Off Time	$R_L = 1.8k\Omega$			25	ns
t_f	Fall Time	$I_D(on) = -3mA$			100	ns

Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

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

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™
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Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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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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