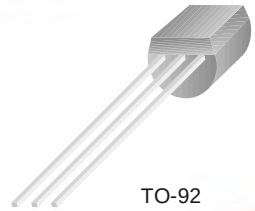
FAIRCHILD SEMICONDUCTOR®

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.



TO-92

D S G

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

Symbol	Parameter	Test Condition		Min.	Typ.	Max.	Units
BV_{GSS}	Gate-Source Breakdown Voltage	V_{DS} = 0V, IG = 1µA		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°C			0.5	µA
I_{DGO}	Drain-Gate Leakage Current	V_{DG} = 15V, I_S = 0				2	nA
			T = +85°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 = 1µA				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, V_{GS}(off) = +7V, R_L = 1.8kΩ, I_D(on) = -3mA				15	ns
t_r	Rise Time					75	ns
t_d(off)	Trun Off Time					25	ns
t_f	Fall Time					100	ns

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

Package Dimensions

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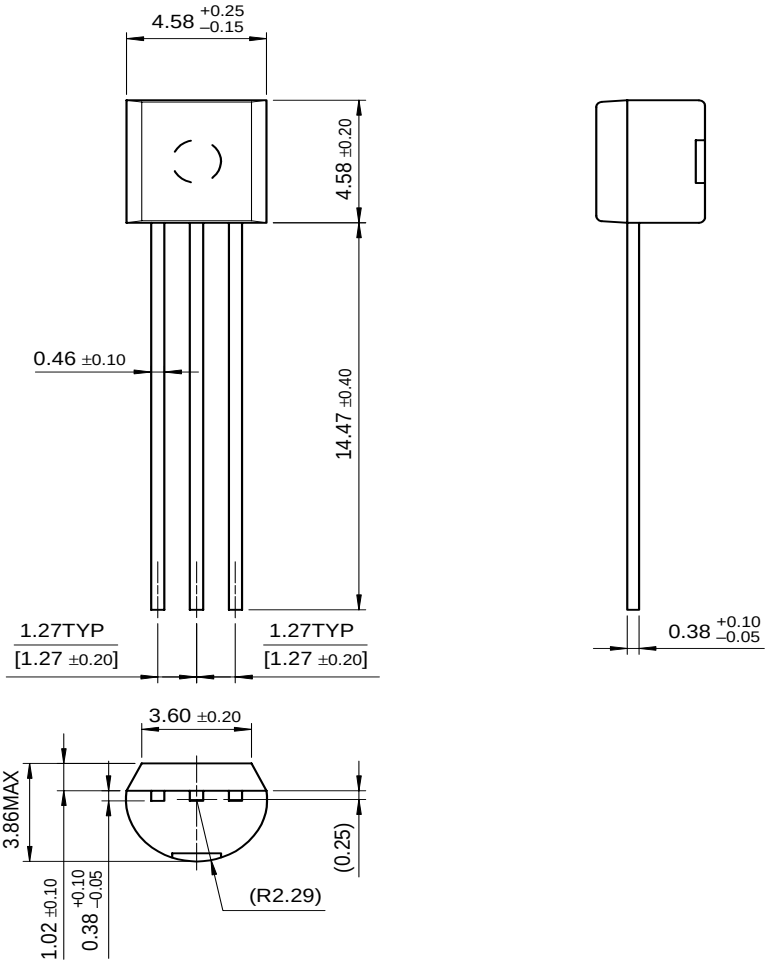

Dimensions in Millimeters

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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™
E²CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I²C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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