

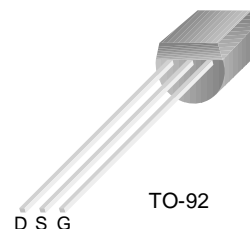


**THE DATASHEET OF  
P1086**



**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:**

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

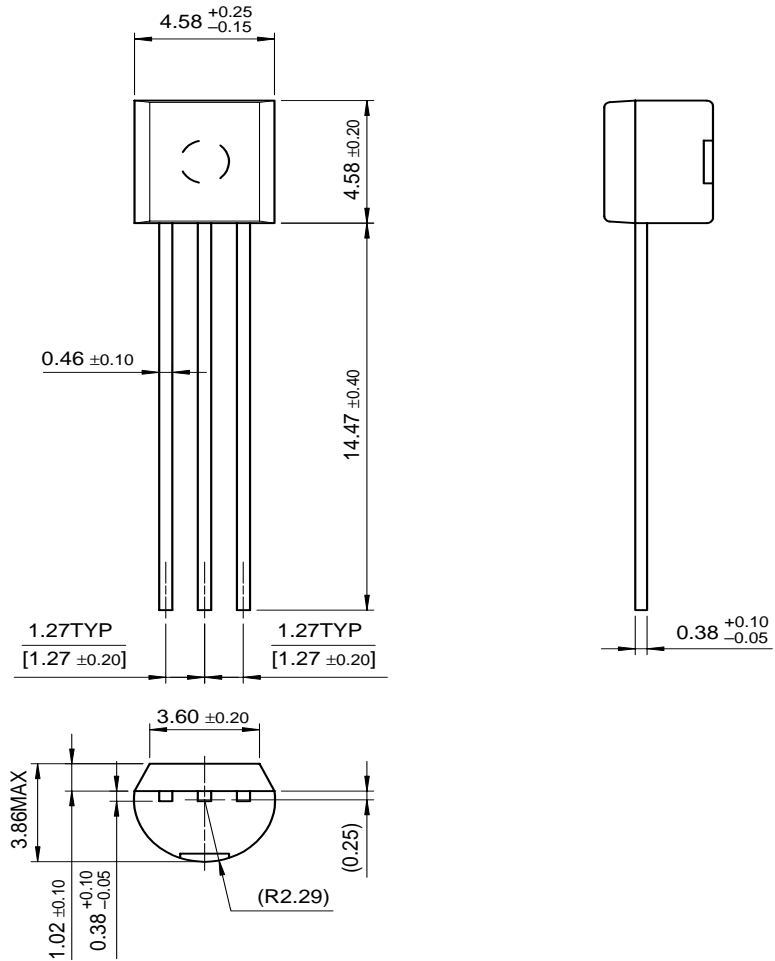
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{GSS}$	Gate-Source Breakdown Voltage	$V_{DS} = 0V, I_G = 1\mu A$	30			V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = 15V$			2	nA
$I_D(\text{off})$	Drain Cutoff Leakage Current	$V_{DS} = 15V$ $V_{GS} = 12V$			10	nA
		$T = +85^\circ\text{C}$			0.5	$\mu A$
$I_{DGO}$	Drain-Gate Leakage Current	$V_{DG} = 15V$ $I_S = 0$			2	nA
		$T = +85^\circ\text{C}$			0.1	$\mu A$
$I_{DSS}$	Zero-Gate Voltage Drain Current	$V_{DS} = 20V, V_{GS} = 0V$	10			mA
$V_{GS}(\text{off})$	Gate-Source Cutoff Voltage	$V_{DS} = 15V, I_D = 1\mu A$			10	V
$V_{DS}(\text{on})$	Drain-Source On Voltage	$V_{GS} = 0V, I_D = 6mA$			0.5	V
$r_{DS}(\text{on})$	Drain-Source On Resistance	$V_{GS} = 0V, I_D = 1mA$			75	$\Omega$
$r_{ds}(\text{on})$	Drain-Source On Resistance	$V_{GS} = 0V, I_D = 0, f = 1kHz$			75	$\Omega$
$C_{iss}$	Input Capacitance	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$			45	pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{DS} = 0V, V_{GS} = 12V, f = 1MHz$			10	pF
$t_d(\text{on})$	Trun On Time	$V_{DD} = -6V$			15	ns
$t_r$	Rise Time	$V_{GS}(\text{off}) = +12V$			20	ns
$t_d(\text{off})$	Trun Off Time	$R_L = 910\Omega$			15	ns
$t_f$	Fall Time	$I_D(\text{on}) = 6mA$			50	ns

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

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	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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