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Fairchild Semiconductor
TIS75

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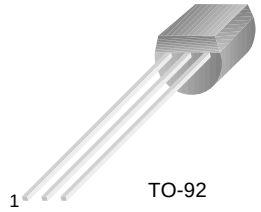
FAIRCHILD SEMICONDUCTOR®

TIS75

N-Channel General Purpose Amplifier

- This device is designed for low level analog switching, sample and hold circuits and chopper stabilized amplifiers.
- Sourced from process 54.



TO-92

1. Gate 2. Source 3. Drain

Absolute Maximum Ratings * T_a=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	10	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.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	I_G = 1.0μA, V_{DS} = 0	-30			V
I_{GSS}	Gate Reverse Current	V_{GS} = 15V, V_{DS} = 0 V_{GS} = 15V, V_{DS} = 0, T_a = 100°C			-2.0 -5.0	nA μA
I_D(off)	Drain Cutoff Leakage Current	V_{DS} = 15V, V_{GS} = -10V V_{DS} = 15V, V_{GS} = -10V, T_a = 100°C			-2.0 -5.0	nA μA
V_{GS}(off)	Gate-Source Cutoff Voltage	V_{DS} = 20V, I_D = 4.0nA	-0.8		-4.0	V
On Characteristics *						
I_{DSS}	Zero-Gate Voltage Drain Current *	V_{DS} = 15V, V_{GS} = 0	8		80	mA
r_{DS}(on)	Drain-Source On Resistance	V_{DS} ≤ 0.1V, V_{GS} = 0			60	Ω
Small Signal Characteristics						
C_{iss}	Input Capacitance	V_{DS} = 0, V_{GS} = -10V, f = 1.0MHz			18	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 0, V_{GS} = -10V, f = 1.0MHz			8.0	pF
Switching Characteristics						
t_r	Rise Time	V_{GS}(off) = -4.0V, V_{GS}(on) = 0, I_D = 5.0mA, V_{DS} = 10V			10	ns
t_{on}	Turn-On Time				10	ns
t_{off}	Turn-Off Time				100	ns

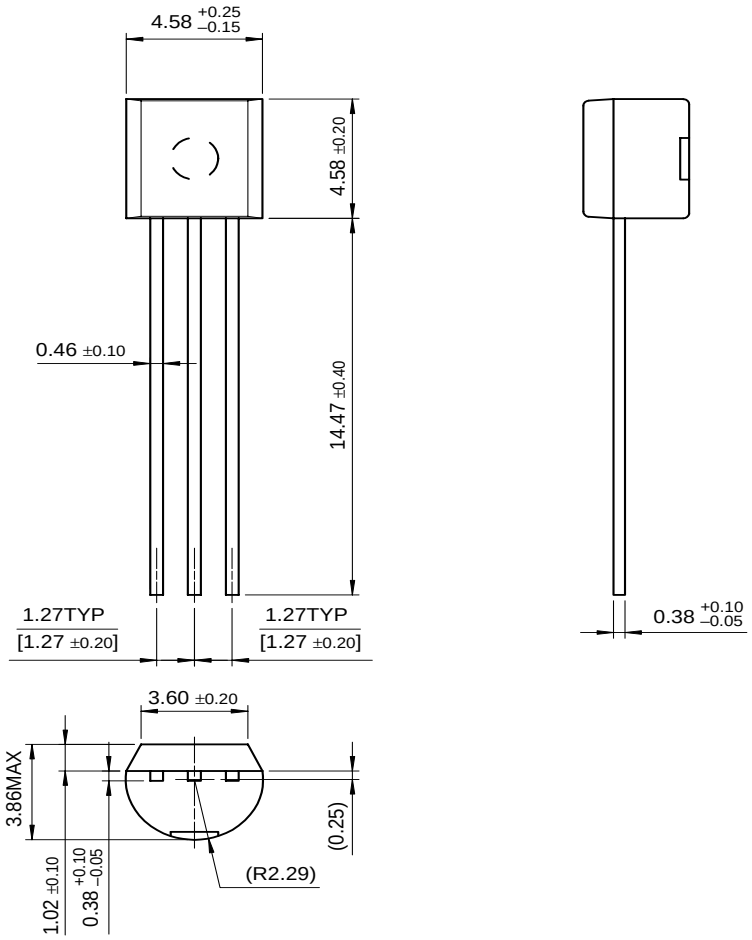
* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 3.0%

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

TO-92



Dimensions in Millimeters

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CROSSVOLT™	GlobalOptoisolator™	MicroPak™	QS™	SyncFET™
DOME™	GTO™	MICROWIRE™	QT Optoelectronics™	TinyLogic®
EcoSPARK™	HiSeC™	MSX™	Quiet Series™	TINYOPTO™
E^2CMOS™	I^2C™	MSXPro™	RapidConfigure™	TruTranslation™
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FACT™	ImpliedDisconnect™	OCXPro™	µSerDes™	UltraFET®
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Definition of Terms

Datasheet Identification	Product Status	Definition
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