

SEMICONDUCTOR

TIS73/TIS74

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.



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

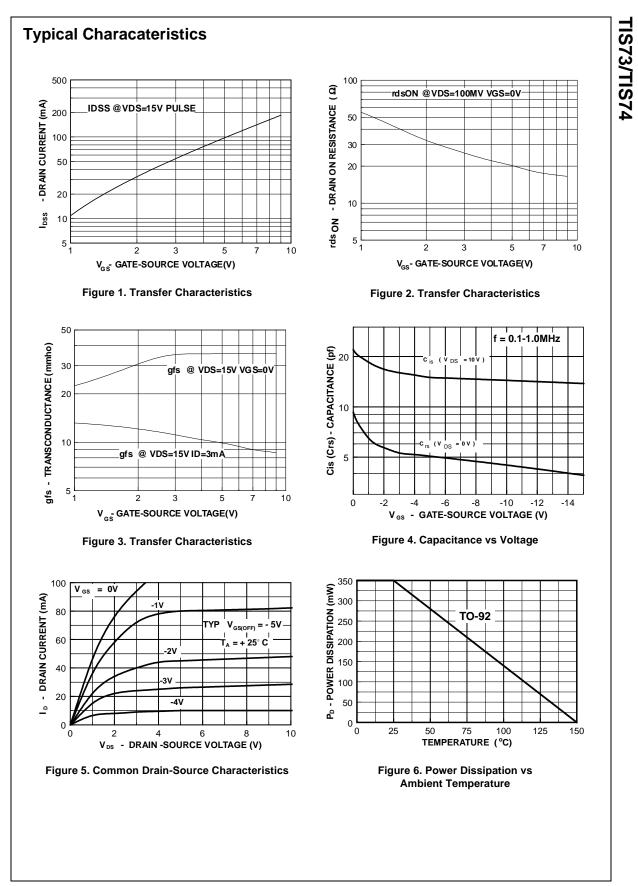
NOTES:

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.

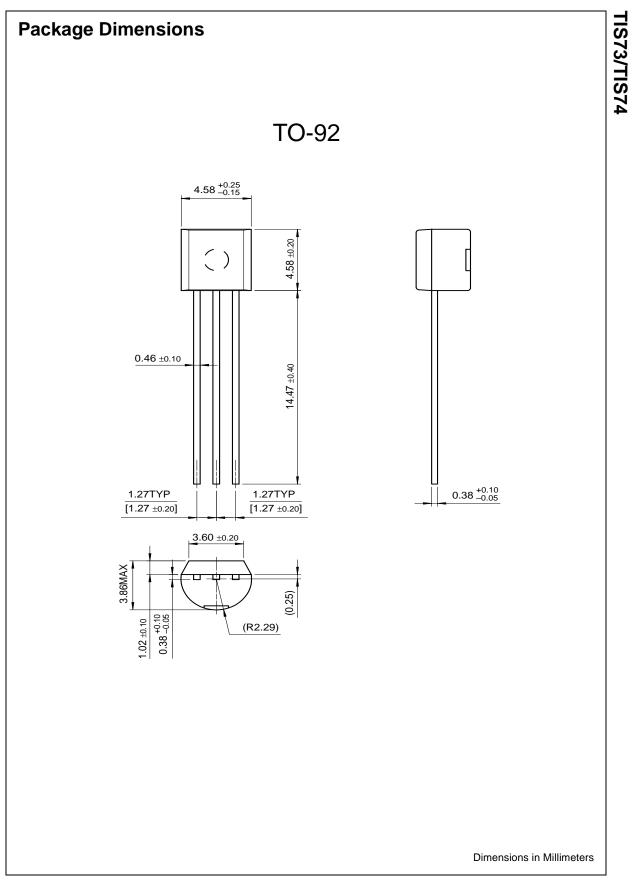
Electrical Characteristics TA=25°C unless otherwise noted

Symbol	Parameter	rameter Test Condition		Min.	Тур.	Max.	Units
Off Charac	teristics						
V _{(BR)GSS}	Gate-Source Breakdown Voltage	$I_{G} = 1.0 \mu A, V_{DS} = 0$		-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	$V_{DS} = 15V, V_{GS} = -10V$ $V_{DS} = 15V, V_{GS} = -10V,$ $T_a = 100^{\circ}C$				-2.0 -5.0	nA μA
V _{GS} (off)	Gate-Source Cutoff Voltage	V _{DS} = 15V, I _D = 4.0nA	TIS73 TIS74	-4.0 -2.0		-10 -6.0	V V
On Charac	teristics *	·					
I _{DSS}	Zero-Gate Voltage Drain Current *	V _{DS} = 15V, V _{GS} = 0	TIS73 TIS74	50 20		100	mA mA
r _{DS} (on)	Drain-Source On Resistance	$V_{DS} \le 0.1V, V_{GS} = 0$ f = 1.0KHz	TIS73 TIS74			25 40	Ω Ω
Small Sigr	nal Characteristics						
C _{iss}	Input Capacitance	$V_{DS} = 0, V_{GS} = -10V, f = 2$	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	$V_{GS}(off) = -10V, V_{GS}(on)$ $I_D = 20mA, V_{DS} = 10V$	= 0, TIS73 TIS74			3.0 4.0	ns ns
t _{on}	Turn-On Time	$V_{GS(off)}$ = -10V, $V_{GS}(on)$ = I _D = 20mA, V_{DS} = 10V	= 0,			6.0	ns
t _{off}	Turn-Off Time	$V_{GS}(off) = -10V, V_{GS}(on) = 10V, V_{DS} = 10V$	= 0, TIS73 TIS74			25 50	ns ns

Symbol	Parameter	Max.	Units
D	Total Device Dissipation Derate above 25 [°] C	350	mW mW/ ^o C
	Derate above 25°C	2.8	mW/ ^C C
θJC	Thermal Resistance, Junction to Case	125	°C/W
θJA	Thermal Resistance, Junction to Ambient	357	°C/W



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