

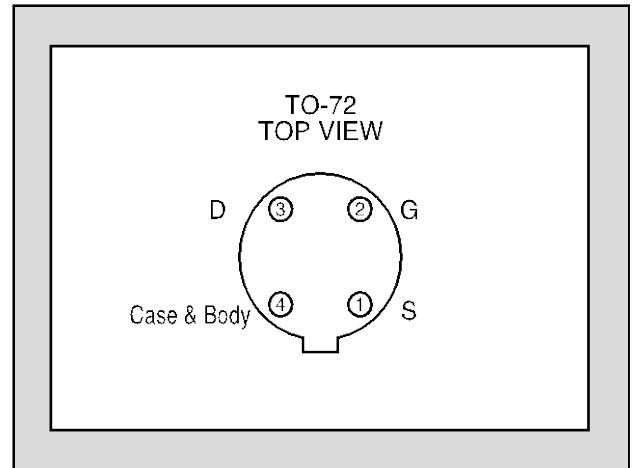
LINEAR SYSTEMS

Improved Standard Products®

2N4351

N-CHANNEL MOSFET
ENHANCEMENT MODE

FEATURES	
DIRECT REPLACEMENT FOR INTERSIL 2N4351	
HIGH DRAIN CURRENT	$I_D = 20\text{mA}$
HIGH GAIN	$g_{fs} = 1000\mu\text{S}$
ABSOLUTE MAXIMUM RATINGS¹ @ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Operating Junction Temperature	-55 to +150 °C
Maximum Power Dissipation, $T_A=25^\circ\text{C}$	
Continuous Power Dissipation ³	350mW
Maximum Current	
Drain to Source	20mA
Maximum Voltages	
Drain to Body	25V
Drain to Source	25V
Gate to Source	$\pm 30\text{V}$

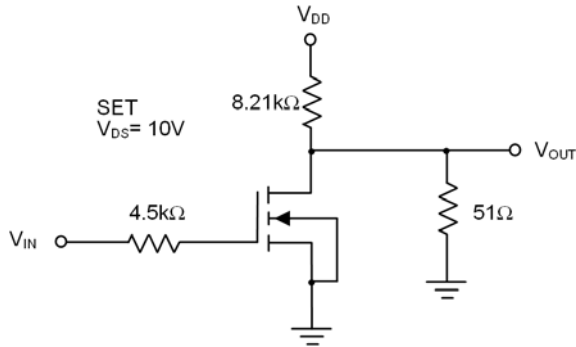


ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated) ($V_{SB} = 0\text{V}$ unless otherwise stated)

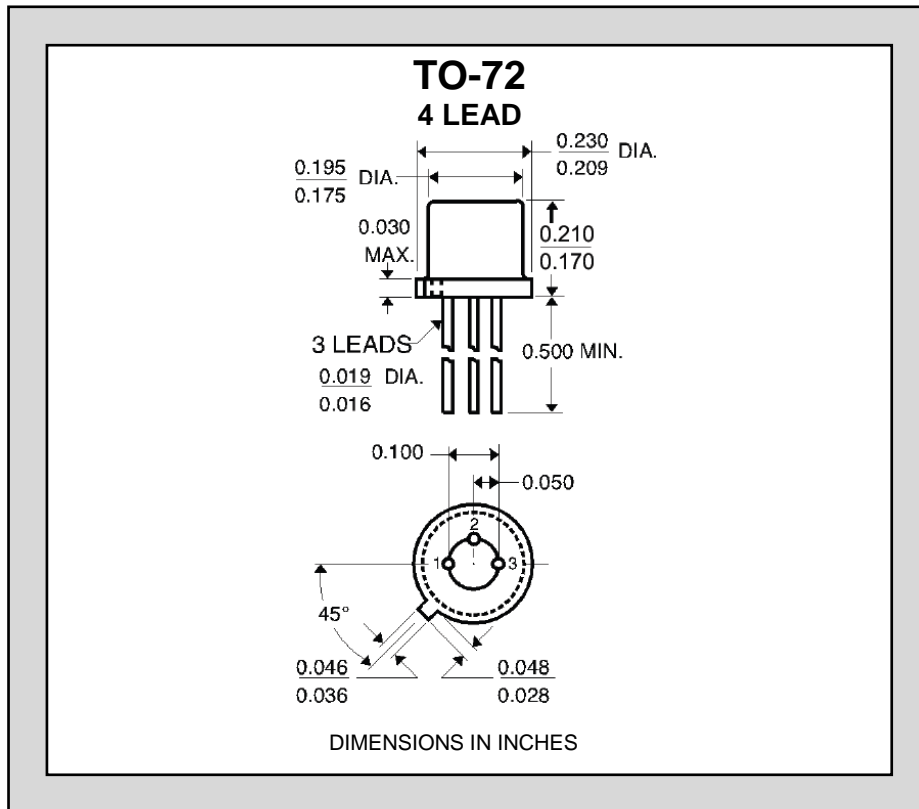
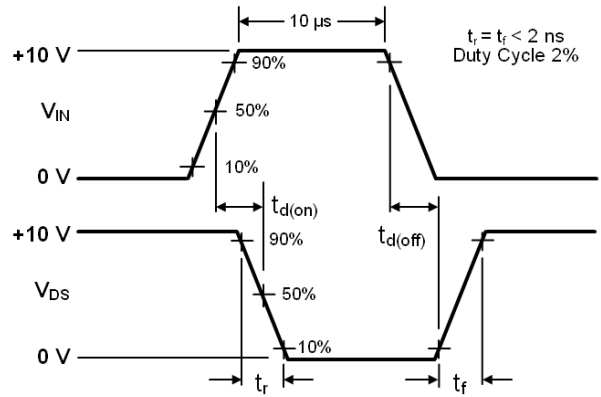
SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
BV_{DSS}	Drain to Source Breakdown Voltage	25			V	$I_D = 10\mu\text{A}, V_{GS} = 0\text{V}$
$V_{DS(on)}$	Drain to Source "On" Voltage			1		$I_D = 2\text{mA}, V_{GS} = 10\text{V}$
$V_{GS(th)}$	Gate to Source Threshold Voltage	1		5		$V_{DS} = 10\text{V}, I_D = 10\mu\text{A}$
I_{GSS}	Gate Leakage Current			± 10	pA	$V_{GS} = \pm 30\text{V}, V_{DS} = 0\text{V}$
I_{DSS}	Drain Leakage Current "Off"			10	nA	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$
$I_{D(on)}$	Drain Current "On"	3			mA	$V_{GS} = 10\text{V}, V_{DS} = 10\text{V}$
g_{fs}	Forward Transconductance	1000			μS	$V_{DS} = 10\text{V}, I_D = 2\text{mA}, f = 1\text{kHz}$
$r_{ds(on)}$	Drain to Source "On" Resistance			300	Ω	$V_{GS} = 10\text{V}, I_D = 100\mu\text{A}, f = 1\text{kHz}$
C_{rss}	Reverse Transfer Capacitance ²			1.3	pF	$V_{DS} = 0\text{V}, V_{GS} = 0\text{V}, f = 140\text{kHz}$
C_{iss}	Input Capacitance ²			5.0		$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}, f = 140\text{kHz}$
C_{db}	Drain to Body Capacitance ²			5.0		$V_{DB} = 10\text{V}, f = 140\text{kHz}$

SYMBOL	CHARACTERISTIC	MAX	UNITS
$t_{d(on)}$	Turn On Delay Time ²	45	ns
t_r	Turn On Rise Time ²	65	
$t_{d(off)}$	Turn Off Delay Time ²	60	
t_f	Turn Off Fall Time ²	100	

SWITCHING TEST CIRCUIT



TIMING WAVEFORMS



NOTES

1. Absolute maximum ratings are limiting values above which serviceability may be impaired. Information furnished by Linear Integrated Systems is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.
2. Not a production test. Guaranteed by design.
3. Derate 2.8 mW °C above 25 °C.

Linear Integrated Systems develops and produces the highest performance semiconductors of their kind in the industry. Linear Systems, founded in 1987, uses patented and proprietary processes and designs to create its high performance discrete semiconductors. Expertise brought to the company is based on processes and products developed at Amelco, Union Carbide, Intersil and Micro Power Systems by company founder John H. Hall.