LINEAR SYSTEMS

Linear Integrated Systems

2N5018 SERIES

SINGLE P-CHANNEL JFET SWITCH

| FEATURES	
DIRECT REPLACEMENT FOR SILICONIX 2N5018	
ZERO OFFSET VOLTAGE	
LOW ON RESISTANCE	75Ω
ABSOLUTE MAXIMUM RATINGS[1] @ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to 200°C
Junction Operating Temperature	-55 to 200°C
Maximum Power Dissipation	
Continuous Power Dissipation	500mW
Maximum Currents	
Gate Current	-50mA
Maximum Voltages	
Gate to Drain	30V
Gate to Source	30V

TO-18
BOTTOM VIEW

G ② ③ D

S ①
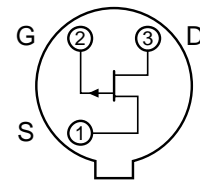
STATIC ELECTRICAL CHARACTERISTICS @25 °C (unless otherwise stated)

SYM.	CHARACTERISTIC	TYP	2N5018		2N5019		UNITS	CONDITIONS
			MIN	MAX	MIN	MAX		
BV_{GSS}	Gate to Source Breakdown Voltage		30		30		V	$I_G = 1\mu A$, $V_{DS} = 0V$
$V_{GS(off)}$	Gate to Source Cutoff Voltage			10		5		$V_{DS} = -15V$, $I_D = -1\mu A$
$V_{DS(on)}$	Drain to Source On Voltage			-0.5				$V_{GS} = 0V$, $I_D = -6mA$
						-0.5		$V_{GS} = 0V$, $I_D = -3mA$
I_{DSS}	Drain to Source Saturation Current[2]		-10		-5		mA	$V_{DS} = -20V$, $V_{GS} = 0V$
I_{GSS}	Gate Leakage Current			2		2	nA	$V_{GS} = 15V$, $V_{DS} = 0V$
$I_{D(off)}$	Drain Cutoff Current			-10		-10		$V_{DS} = -15V$, $V_{GS} = 12V$
				-10		-10	µA	$V_{DS} = -15V$, $V_{GS} = 7V$
I_{DGO}	Drain Reverse Current			-2		-2	nA	$V_{DG} = -15V$, $I_S = 0A$
$r_{DS(on)}$	Drain to Source On Resistance			75		150	Ω	$I_D = -1mA$, $V_{GS} = 0V$

DYNAMIC ELECTRICAL CHARACTERISTICS @25 °C (unless otherwise stated)

SYM.	CHARACTERISTIC	TYP	2N5018		2N5019		UNITS	CONDITIONS
			MIN	MAX	MIN	MAX		
$r_{ds(on)}$	Drain to Source On Resistance			75		150	Ω	I_D = 0A, V_{GS} = 0V f = 1kHz
C_{iss}	Input Capacitance			45		45	pF	V_{DS} = -15V, V_{GS} = 0V f = 1MHz
C_{rss}	Reverse Transfer Capacitance			10				V_{DS} = 0V, V_{GS} = 12V f = 1MHz
						10		V_{DS} = 0V, V_{GS} = 7V f = 1MHz

SWITCHING CHARACTERISTICS (max)

SYM.	CHARACTERISTIC	2N5018	2N5019	UNITS
$t_{d(on)}$	Turn On Time	15	15	ns
t_r		20	75	
$t_{d(off)}$	Turn Off Time	15	25	
t_f		50	100	

SWITCHING CIRCUIT CHARACTERISTICS

SYM.	2N5018	2N5019
V_{DD}	-6V	-6V
V_{GG}	12V	8V
R_L	910Ω	1.8kΩ
R_G	220Ω	390Ω
$I_{D(on)}$	-6mA	-3mA
$V_{GS(H)}$	0V	0V
$V_{GS(L)}$	12V	7V

TO-18
Three Lead
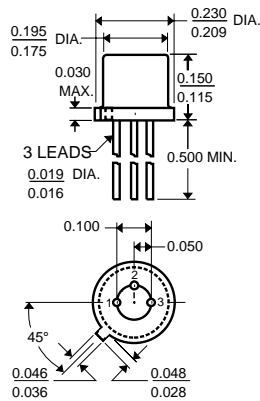
SWITCHING TEST CIRCUIT
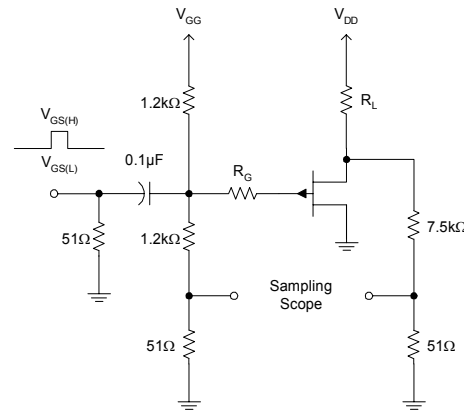
NOTES

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Pulse test: PW ≤ 300μs, Duty Cycle ≤ 3%

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.