

## 2N5018 SERIES

### SINGLE P-CHANNEL JFET SWITCH

#### FEATURES

DIRECT REPLACEMENT FOR SILICONIX 2N5018

ZERO OFFSET VOLTAGE

LOW ON RESISTANCE 75Ω

#### ABSOLUTE MAXIMUM RATINGS<sup>1</sup>

@ 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

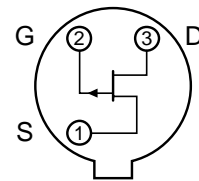
Gate Current -50mA

#### Maximum Voltages

Gate to Drain 30V

Gate to Source 30V

TO-18  
BOTTOM VIEW



#### 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		-0.5		$V_{GS} = 0V, I_D = -6mA$ $V_{GS} = 0V, I_D = -3mA$
$I_{DSS}$	Drain to Source Saturation Current <sup>2</sup>		-10		-5		mA	$V_{DS} = -20V, V_{GS} = 0V$
$I_{GSS}$	Gate Leakage Current			2		2		nA
$I_{D(off)}$	Drain Cutoff Current			-10		-10	μA	$V_{DS} = -15V, V_{GS} = 12V$
$I_{DGO}$	Drain Reverse Current			-2		-2		nA
$r_{DS(on)}$	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	$\Omega$	$I_D = 0A, V_{GS} = 0V$ $f = 1kHz$
$C_{iss}$	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		$V_{DS} = 0V, V_{GS} = 7V$ $f = 1MHz$

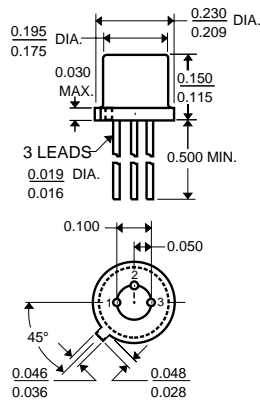
**SWITCHING CHARACTERISTICS (max)**

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	

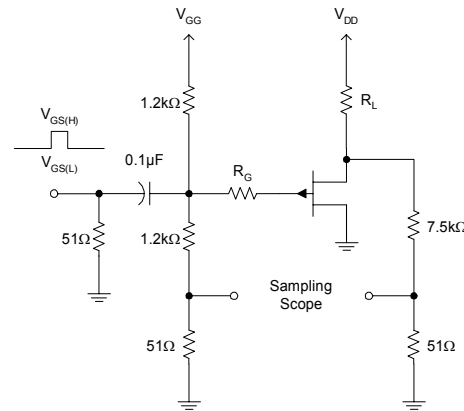
**SWITCHING CIRCUIT CHARACTERISTICS**

SYM.	2N5018	2N5019
$V_{DD}$	-6V	-6V
$V_{GG}$	12V	8V
$R_L$	910 $\Omega$	1.8k $\Omega$
$R_G$	220 $\Omega$	390 $\Omega$
$I_{D(on)}$	-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  $\leq$  300 $\mu$ s, Duty Cycle  $\leq$  3%

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