

2N5018 SERIES

SINGLE P-CHANNEL JFET SWITCH

FEATURES

DIRECT REPLACEMENT FOR SILICONIX 2N5018

ZERO OFFSET VOLTAGE

LOW ON RESISTANCE 75 Ω

ABSOLUTE MAXIMUM RATINGS¹

@ 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

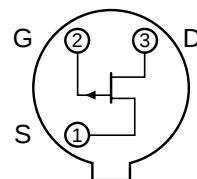
Gate Current -50mA

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 μ A, V _{DS} = 0V
V _{GS(off)}	Gate to Source Cutoff Voltage			10		5		V _{DS} = -15V, I _D = -1 μ 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	μ A	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		$V_{DS} = 0V, V_{GS} = 7V$ $f = 1MHz$

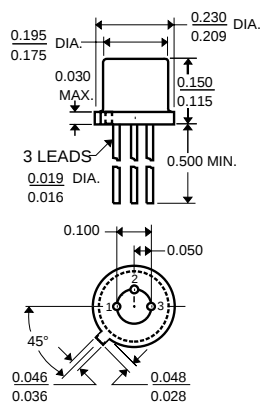
SWITCHING CHARACTERISTICS (max)

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	

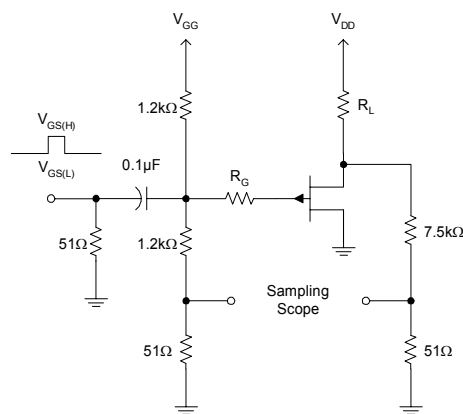
SWITCHING CIRCUIT CHARACTERISTICS

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

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