

LS5018 P-CHANNEL JFET



Linear Systems replaces discontinued Siliconix 2N5018 The LS5018 is a single P-Channel JFET switch

This p-channel analog switch is designed to provide low on-resistance and fast switching.

The SOT-23 package provides ease of manufacturing, and a lower cost assembly option.

(See Packaging Information).

LS5018 Benefits:

- Low Insertion Loss
- No offset or error voltage generated by closed switch
- Purely resistive

LS5018 Applications:

- Analog Switches
- Commutators
- Choppers

FEATURES			
DIRECT REPLACEMENT FOR SILICONIX 2N5018			
ZERO OFFSET VOLTAGE			
LOW ON RESISTANCE	r _{DS(on)} ≤ 75Ω		
ABSOLUTE MAXIMUM RATINGS			
@ 25°C (unless otherwise noted)			
Maximum Temperatures			
Storage Temperature	-55°C to +200°C		
Operating Junction Temperature	-55°C to +200°C		
Maximum Power Dissipation			
Continuous Power Dissipation	500mW		
MAXIMUM CURRENT			
Gate Current (Note 1) I _G = -50mA			
MAXIMUM VOLTAGES			
Gate to Drain Voltage	V _{GDS} = 30V		
Gate to Source Voltage	V _{GSS} = 30V		

LS5018 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

	255015 ELECTRICALE CITATION CO & 25 C (MINESS CITICANISE ROCCA)						
	SYMBOL	CHARACTERISTIC		TYP.	MAX	UNITS	CONDITIONS
Г	BV _{GSS}	Gate to Source Breakdown Voltage					$I_{G} = 1\mu A$, $V_{DS} = 0V$
Г	V _{GS(off)}	Gate to Source Cutoff Voltage			10	V	$V_{DS} = -15V$, $I_{D} = -1\mu A$
	V _{DS(on)}	Drain to Source On Voltage			-0.5		$V_{GS} = 0V$, $I_D = -6mA$
	I _{DSS}	Drain to Source Saturation Current (Note 2)	-10			mA	$V_{DS} = -20V, V_{GS} = 0V$
	I _{GSS}	Gate Reverse Current			2	nA	$V_{GS} = 15V, \ V_{DS} = 0V$
Г	I _{D(off)}	Drain Cutoff Current			-10		V _{DS} = -15V, V _{GS} = 12V
		' 1 0 7			-10	μA	V _{DS} = -15V, V _{GS} = 7V
	I _{DGO}	Drain Reverse Current			-2	nA	$V_{DG} = -15V, I_{S} = 0A$
	r _{DS(on)}	Drain to Source On Resistance			75	Ω	$I_{D} = -1 \text{mA}, V_{GS} = 0 \text{V}$
_							

LS5018 DYNAMIC ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
r _{DS(on)}	Drain to Source On Resistance			75	Ω	$I_D = 0A$, $V_{GS} = 0V$, $f = 1kHz$
C _{iss}	Input Capacitance			45	pF	$V_{DS} = -15V$, $V_{GS} = 0V$, $f = 1MHz$
C _{rss}	Reverse Transfer Capacitance			10		$V_{DS} = 0V, V_{GS} = 12V, f = 1MHz$

LS5018 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC		UNITS	CONDITIONS	
t _{d(on)}	Turn On Time	15	- ns	ns	V _{GS} (L) = 12V
t _r	Turn On Rise Time	20			$V_{GS}(H) = 0V$
t _{d(off)}	Turn Off Time	15		See Switching Circuit	
t _f	Turn Off Fall Time	50		Ç	

Note 1 - Absolute maximum ratings are limiting values above which LS5018 serviceability may be impaired.

Note 2 – Pulse test: PW≤ 300 µs, Duty Cycle ≤ 3%

LS5018 SWITCHING CIRCUIT PARAMETERS

V_{DD}	-6V
V_{GG}	12V
R_L	910Ω
R_{G}	220Ω
I _{D(on)}	-6mA

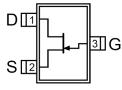
Micross Components Europe

Available Packages:

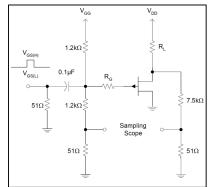
LS5018 in SOT-23 LS5018 in bare die.

Please contact Micross for full package and die dimensions





SWITCHING TEST CIRCUIT





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