

Linear Systems replaces discontinued Siliconix J177

The J177 is a single P-Channel JFET switch

This p-channel analog switch is designed to provide low on-resistance and fast switching. When used in combination with the complimentary J/SST111 n-channel family, the J177 simplifies series-shunt switching applications

J177 Benefits:

- Low Error Voltage
- High-Speed Analog Circuit Performance
- Negligible "Off-Error," Excellent Accuracy
- Good Frequency Response
- Eliminates Additional Buffering

J177 Applications:

- Analog Switches
- Choppers
- Sample-and-Hold
- Normally "On" Switches
- Current Limiters

FEATURES

DIRECT REPLACEMENT FOR SILICONIX J177

LOW ON RESISTANCE $r_{DS(on)} \leq 300\Omega$

LOW GATE OPERATING CURRENT $I_{D(off)} = 10\text{pA}$

FAST SWITCHING $t_{(ON)} 25\text{ns}$

ABSOLUTE MAXIMUM RATINGS
@ 25°C (unless otherwise noted)

Maximum Temperatures

Storage Temperature -55°C to +150°C

Operating Junction Temperature -55°C to +135°C

Maximum Power Dissipation

Continuous Power Dissipation 350mW

MAXIMUM CURRENT

Gate Current (Note 1) $I_G = -50\text{mA}$

MAXIMUM VOLTAGES

Gate to Drain Voltage $V_{GDS} = 30\text{V}$

Gate to Source Voltage $V_{GSS} = 30\text{V}$

J177 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	30	--	--	V	$I_G = -1\mu\text{A}, V_{DS} = 0\text{V}$
$V_{GS(F)}$	Gate to Source Forward Voltage	--	-0.7	--		$I_G = -1\text{mA}, V_{DS} = 0\text{V}$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	0.8	--	2.25		$V_{DS} = -15\text{V}, I_D = -10\text{nA}$
I_{DSS}	Drain to Source Saturation Current	-1.5	--	-20	nA	$V_{DS} = -15\text{V}, V_{GS} = 0\text{V}$
I_{GSS}	Gate Reverse Current	--	0.01	1		$V_{GS} = 20\text{V}, V_{DS} = 0\text{V}$
I_G	Gate Operating Current	--	0.01	--		$V_{DG} = -15\text{V}, I_D = -1\text{mA}$
$I_{D(off)}$	Drain Cutoff Current	--	-0.01	-1		$V_{DS} = -15\text{V}, V_{GS} = 0\text{V}$
$r_{DS(on)}$	Drain to Source On Resistance	--	--	300		$V_{GS} = 0\text{V}, V_{DS} = -0.1\text{V}$

J177 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

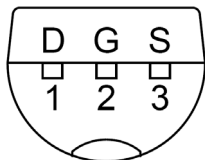
SYMBOL	CHARACTERISTIC	UNITS	CONDITIONS
$t_{d(on)}$	Turn On Time	10	$V_{GS(L)} = 0\text{V}$ $V_{GS(H)} = 10\text{V}$ See Switching Circuit
t_r	Turn On Rise Time	15	
$t_{d(off)}$	Turn Off Time	10	
t_f	Turn Off Fall Time	20	

Note 1 - Absolute maximum ratings are limiting values above which J177 serviceability may be impaired.

J177 SWITCHING CIRCUIT PARAMETERS

V_{DD}	-6V
V_{GG}	5V
R_L	5600Ω
R_G	390Ω
$I_{D(on)}$	-1mA

TO-92 (Bottom View)

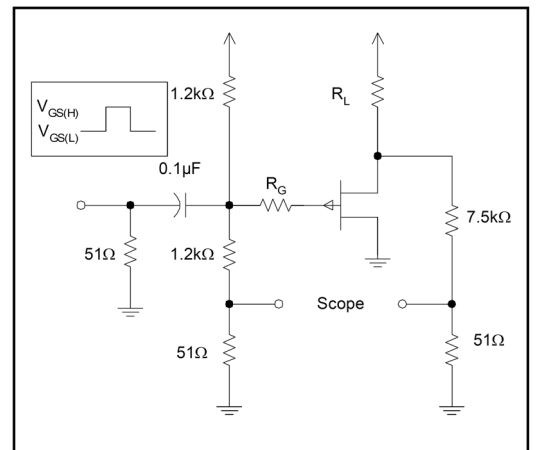


Available Packages:

J177 in TO-92
J177 in bare die.

Please contact Micross for full package and die dimensions

SWITCHING CIRCUIT



Micross Components Europe



Tel: +44 1603 788967

Email: chipcomponents@micross.com

Web: <http://www.micross.com/distribution>

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