

Linear Systems replaces discontinued Siliconix J174

The J174 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 J174 simplifies series-shunt switching applications

J174 Benefits:

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

J174 Applications:

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

FEATURES

DIRECT REPLACEMENT FOR SILICONIX J174

LOW ON RESISTANCE	$r_{DS(on)} \leq 85\Omega$
LOW GATE OPERATING CURRENT	$I_{D(off)} = 10pA$
FAST SWITCHING	$t_{(ON)} 25ns$

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
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MAXIMUM CURRENT

Gate Current (Note 1)	$I_G = -50mA$
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MAXIMUM VOLTAGES

Gate to Drain Voltage	$V_{GDS} = 30V$
Gate to Source Voltage	$V_{GSS} = 30V$

J174 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	30	--	--	V	$I_G = -1\mu A, V_{DS} = 0V$
$V_{GS(F)}$	Gate to Source Forward Voltage	--	-0.7	--		$I_G = -1mA, V_{DS} = 0V$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	5	--	10		$V_{DS} = -15V, I_D = -10nA$
I_{DSS}	Drain to Source Saturation Current	-20	--	-135	nA	$V_{DS} = -15V, V_{GS} = 0V$
I_{GSS}	Gate Reverse Current	--	0.01	1		$V_{GS} = 20V, V_{DS} = 0V$
I_G	Gate Operating Current	--	0.01	--		$V_{DG} = -15V, I_D = -1mA$
$I_{D(off)}$	Drain Cutoff Current	--	-0.01	-1		$V_{DS} = -15V, V_{GS} = 0V$
$r_{DS(on)}$	Drain to Source On Resistance	--	--	85		$V_{GS} = 0V, V_{DS} = -0.1V$

J174 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

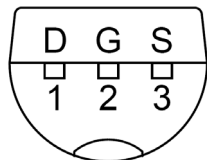
SYMBOL	CHARACTERISTIC	UNITS	CONDITIONS
$t_{d(on)}$	Turn On Time	10	ns $V_{GS(L)} = 0V$ $V_{GS(H)} = 10V$ See Switching Circuit
t_r	Turn On Rise Time	15	
$t_{d(off)}$	Turn Off Time	10	
t_f	Turn Off Fall Time	20	

Note 1 - Absolute maximum ratings are limiting values above which J174 serviceability may be impaired.

J174 SWITCHING CIRCUIT PARAMETERS

V_{DD}	-10V
V_{GG}	20V
R_L	560Ω
R_G	100Ω
$I_{D(on)}$	-15mA

TO-92 (Bottom View)

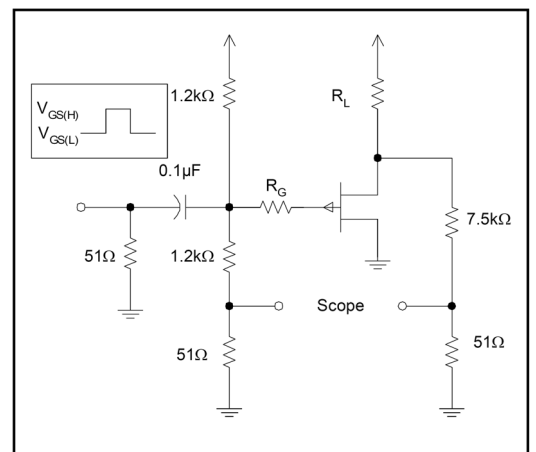


Available Packages:

J174 in TO-92
J174 in bare die.

Please contact Micross for full package and die dimensions

SWITCHING CIRCUIT



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