

Linear Systems replaces discontinued Siliconix SST174

The SST174 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 SST174 simplifies series-shunt switching applications

SST174 Benefits:

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

SST174 Applications:

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

FEATURES

DIRECT REPLACEMENT FOR SILICONIX SST174

| | |
|----------------------------|----------------------------|
| 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 |
|------------------------------|-------|

MAXIMUM CURRENT

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

MAXIMUM VOLTAGES

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

SST174 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 | | $V_{GS} = 0V, V_{DS} = -0.1V$ |

SST174 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

| SYMBOL | CHARACTERISTIC | UNITS | CONDITIONS |
|--------------|--------------------|-------|--|
| $t_{d(on)}$ | Turn On Time | 10 | $V_{GS(L)} = 0V$ $V_{GS(H)} = 10V$ 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 SST174 serviceability may be impaired.

SST174 SWITCHING CIRCUIT PARAMETERS

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

Micross Components Europe

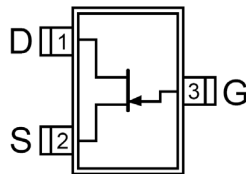


Tel: +44 1603 788967

Email: chipcomponents@micross.com

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

SOT-23 (Top View)



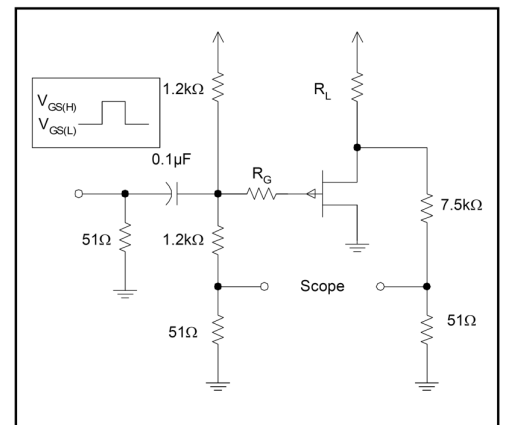
Available Packages:

SST174 in SOT-23

SST174 in bare die.

Please contact Micross for full package and die dimensions

SWITCHING CIRCUIT



Information furnished by Linear Integrated Systems and Micross Components is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.