

Linear Systems replaces discontinued Siliconix SST108

This n-channel JFET is optimised for low noise high performance switching. The part is particularly suitable for use in low noise audio amplifiers. The SOT-23 package is well suited for cost sensitive applications and mass production.

(See Packaging Information).

SST108 Benefits:

- Low On Resistance
- Low insertion loss
- Low Noise

SST108 Applications:

- Analog Switches
- Commutators
- Choppers

FEATURES

DIRECT REPLACEMENT FOR SILICONIX SST108

LOW ON RESISTANCE $r_{DS(on)} \leq 8\Omega$

FAST SWITCHING $t_{(on)} \leq 4ns$

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

Maximum Temperatures

Storage Temperature -55°C to +150°C

Operating Junction Temperature -55°C to +150°C

Maximum Power Dissipation

Continuous Power Dissipation 350mW

MAXIMUM CURRENT

Gate Current (Note 1) 50mA

MAXIMUM VOLTAGES

Gate to Drain Voltage $V_{GDS} = -25V$

Gate to Source Voltage $V_{GSS} = -25V$

SST108 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

| SYMBOL | CHARACTERISTIC | MIN | TYP. | MAX | UNITS | CONDITIONS |
|---------------|---|-----|-------|-----|-------|---------------------------------|
| BV_{GSS} | Gate to Source Breakdown Voltage | -25 | -- | -- | V | $I_G = 1\mu A, V_{DS} = 0V$ |
| $V_{GS(off)}$ | Gate to Source Cutoff Voltage | -3 | -- | -10 | | $V_{DS} = 5V, I_D = 1\mu A$ |
| $V_{GS(F)}$ | Gate to Source Forward Voltage | -- | 0.7 | -- | | $I_G = 1mA, V_{DS} = 0V$ |
| I_{DSS} | Drain to Source Saturation Current (Note 2) | 80 | -- | -- | mA | $V_{DS} = 15V, V_{GS} = 0V$ |
| I_{GSS} | Gate Reverse Current | -- | -0.01 | -3 | nA | $V_{GS} = -15V, V_{DS} = 0V$ |
| I_G | Gate Operating Current | -- | -0.01 | -- | | $V_{DG} = 10V, I_D = 10mA$ |
| $I_{D(off)}$ | Drain Cutoff Current | -- | 0.02 | 3 | | $V_{DS} = 5V, V_{GS} = -10V$ |
| $r_{DS(on)}$ | Drain to Source On Resistance | -- | -- | 8 | | $V_{GS} = 0V, V_{DS} \leq 0.1V$ |

SST108 DYNAMIC ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

| SYMBOL | CHARACTERISTIC | MIN | TYP. | MAX | UNITS | CONDITIONS |
|--------------|-------------------------------|-----|------|-----|----------|--|
| g_{fs} | Forward Transconductance | -- | 17 | -- | mS | $V_{DS} = 5V, I_D = 10mA, f = 1kHz$ |
| g_{os} | Output Conductance | -- | 0.6 | -- | | |
| $r_{DS(on)}$ | Drain to Source On Resistance | -- | -- | 8 | Ω | $V_{GS} = 0V, I_D = 0A, f = 1kHz$ |
| C_{iss} | Input Capacitance | -- | 60 | -- | pF | $V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$ |
| C_{rss} | Reverse Transfer Capacitance | -- | 11 | -- | | $V_{DS} = 0V, V_{GS} = -10V, f = 1MHz$ |
| e_n | Equivalent Noise Voltage | -- | 3.5 | -- | nV/√Hz | $V_{DS} = 5V, I_D = 10mA, f = 1kHz$ |

SST108 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

| SYMBOL | CHARACTERISTIC | UNITS | CONDITIONS |
|--------------|--------------------|-------|-----------------------|
| $t_{d(on)}$ | Turn On Time | 3 | ns |
| t_r | Turn On Rise Time | 1 | |
| $t_{d(off)}$ | Turn Off Time | 4 | |
| t_f | Turn Off Fall Time | 18 | |
| | | | See Switching Circuit |

Note 1 - Absolute maximum ratings are limiting values above which SST108 serviceability may be impaired. Note 2 - Pulse test: $PW \leq 300\mu s$, Duty Cycle $\leq 3\%$

SST108 SWITCHING CIRCUIT PARAMETERS

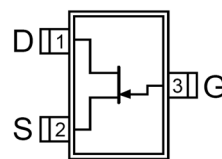
| | |
|-------------|--------------|
| $V_{GS(L)}$ | -12V |
| R_L | 150 Ω |
| $I_{D(on)}$ | 10mA |

Available Packages:

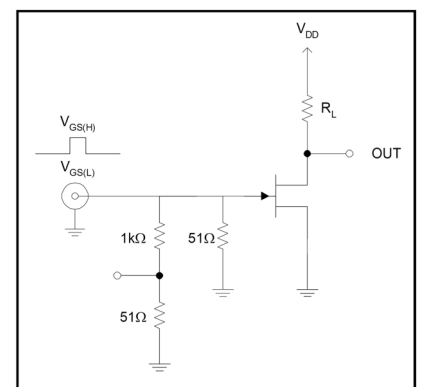
SST108 in SOT-23
SST108 in bare die.

Please contact Micross for full package and die dimensions

SOT-23 (Top View)



SWITCHING TEST CIRCUIT



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