



Gate is also backside contact

TL/G/10035-60

DESCRIPTION

Process 59 is provided for analog or digital switching applications where very low $R_{DS(ON)}$ is mandatory. The 4Ω typical ON resistance is very useful where switch resistance must be held to an absolute minimum.

Electrical Characteristics ($T_A = 25^\circ\text{C}$)

| Symbol | Parameter | Conditions | Min | Typ | Max | Units |
|---------------|---------------------------------|---|-----|-----|------|----------------|
| BV_{GSS} | Gate-Source Breakdown Voltage | $V_{DS} = 0V, I_G = -1\mu A$ | 25 | | | V |
| I_{DSS} | Zero Gate Voltage Drain Current | $V_{DS} = 15V, V_{GS} = 0V$ Pulse Test | 100 | 600 | 1500 | mA |
| I_{GSS} | Reverse Gate Leakage | $V_{GS} = -15V, V_{DS} = 0V$ | | | 1.0 | nA |
| $r_{DS(ON)}$ | ON Resistance | $V_{DS} = 100mV, V_{GS} = 0V$ | 1.5 | 4.0 | 10 | Ω |
| $V_{GS(OFF)}$ | Pinch Off Voltage | $V_{DS} = 5V, I_D = 100nA$ | 0.5 | 5.0 | 10 | V |
| $I_{D(OFF)}$ | Drain OFF Current | $V_{DS} = 5V, V_{GS} = -10V$ | | 1.0 | 10 | nA |
| C_{rss} | Feedback Capacitance | $V_{DG} = 15V, I_D = 2mA, f = 1MHz$ | | 25 | 35 | pF |
| C_{iss} | Input Capacitance | $V_{DG} = 15V, I_D = 2mA, f = 1MHz$ | | 50 | 80 | pF |
| g_{fs} | Forward Transconductance | $V_{DG} = 10V, I_D = 2mA$ | | 10 | | mmho |
| g_{os} | Output Conductance | $V_{DG} = 10V, I_D = 2mA$ | | 200 | | μmho |
| e_n | Noise Voltage | $V_{DG} = 15V, I_D = 2mA, f = 100Hz$ | | 6.0 | | nV/\sqrt{Hz} |

This process is available in the following device types.

TO-92 (NS Package 92)

J105

J106

J107