HFZT

LJ9452

SOT-89-3L Plastic-Encapsulate MOSFETS

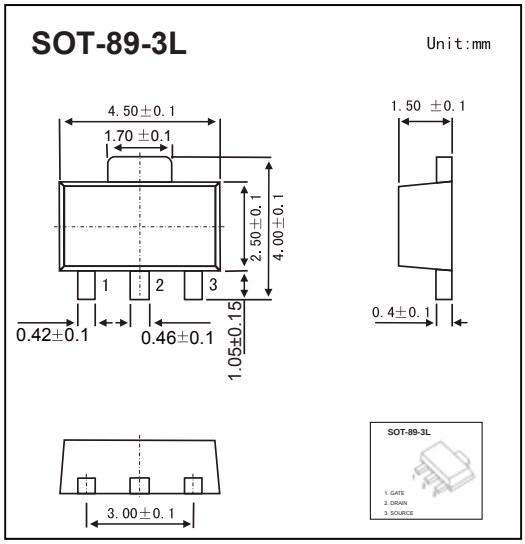
FEATURE

●N-Channel 20-V(D-S) MOSFET

MECHANICAL DATA

●Case style:SOT-89-3L molded plastic

●Mounting position:any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Continuous Gate-Source Voltage	V_{GS}	±12	
Continuous Drain Current	I_D	4	A
Power Dissipation	P_D	0.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	250	℃/W
Operating Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55 ~+150	

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
20 V	38mΩ@10V	4A
	50mΩ@4.5V	
	80mΩ@2.5V	

MOSFET ELECTRICAL CHARACTERISTICS T_A=25℃ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Gate-body leakage	I_{GSS}	V_{DS} =0V, V_{GS} =±12V			±100	nA
Zero gate voltage drain current	I_{DSS}	V_{DS}=20V, V_{GS} =0V			1.0	μA
On characteristics						
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =0.25mA	0.70		1.50	V
Static drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =10V, I_D =4A			0.038	Ω
		V_{GS} =4.5V, I_D =4A			0.05	
		V_{GS} =2.5V, I_D =3A			0.08	
Forward transconductance (note 1)	g_{fs}	V_{DS} =5V, I_D =3A	3			S
Dynamic characteristics (note 2)						
Input capacitance	C_{iss}	V_{DS} =20V,V_{GS} =0V, f=1MHz			570	pF
Output capacitance	C_{oss}			80		
Reverse transfer capacitance	C_{rss}			65		
Switching characteristics						
Turn-on delay time (note 1,2)	$t_{d(on)}$	V_{GS}=5V, V_{DS}=10V, I_D =1A,R_{GEN}=3.3Ω, R_D=10Ω		8		ns
Rise time (note 2)	t_r			9		
Turn-off delay time (note 2)	$t_{d(off)}$			13		
Fall time (note 2)	t_f			3		
Drain-source body diode characteristics						
Body diode forward voltage (note 1)	V_{SD}	I_S=1A, V_{GS} = 0V			1.3	V

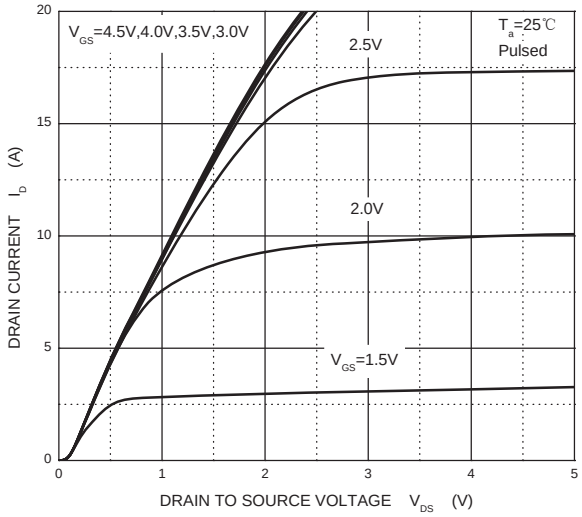
No tes:

1. Pulse Test ; Pulse Width ≤300μs, Duty Cycle ≤2%.
2. These parameters have no way to verify.

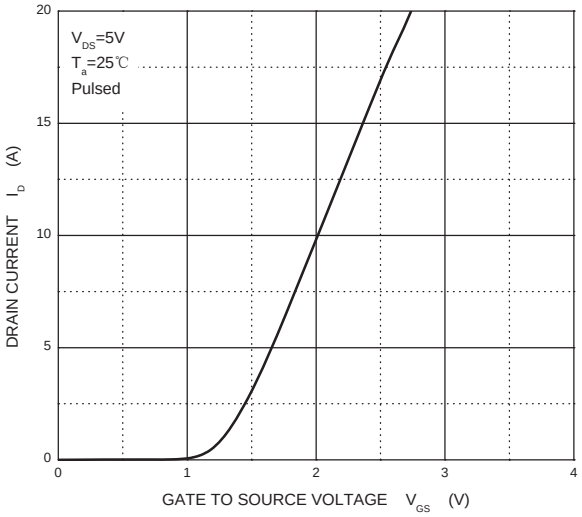
RATINGS AND CHARACTERISTIC CURVES

■ Typical Characterisitics

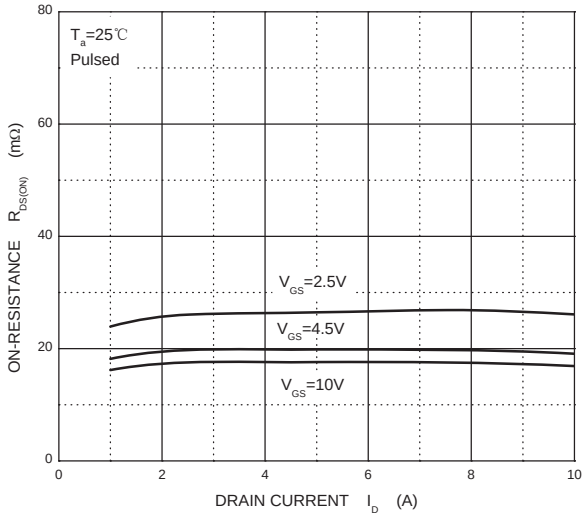
Output Characteristics



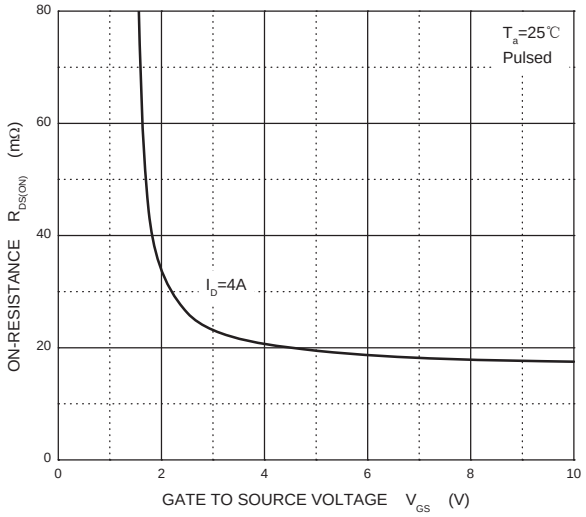
Transfer Characteristics



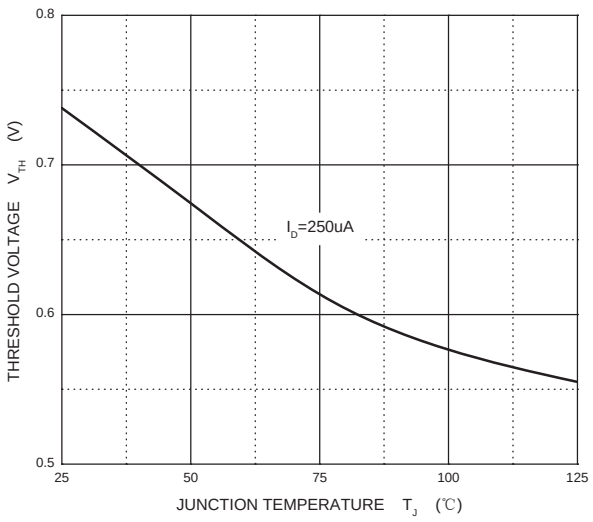
$R_{DS(ON)}$ —— I_D



$R_{DS(ON)}$ —— V_{GS}



Threshold Voltage



I_S —— V_{SD}