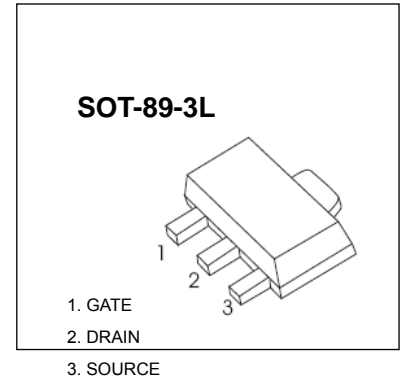


Plastic-Encapsulate MOSFETS

P-Channel 20-V(D-S) MOSFET

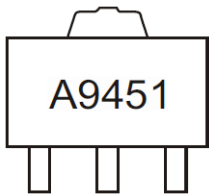
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-20V	135mΩ@-4.5V	-2.3A
	240mΩ@-2.5V	



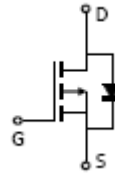
Description

The Advanced Power MOSFETs provide the designer with the best combination of fast switching, ruggedized device design, ultra low on-resistance and cost-effectiveness.

MARKING



Equivalent Circuit



Maximum ratings ($T_a=25^\circ\text{C}$ 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	-2.3	A
Power Dissipation	P_D	0.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	250	$^\circ\text{C}/\text{W}$
Operating Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	

MOSFET ELECTRICAL CHARACTERISTICS

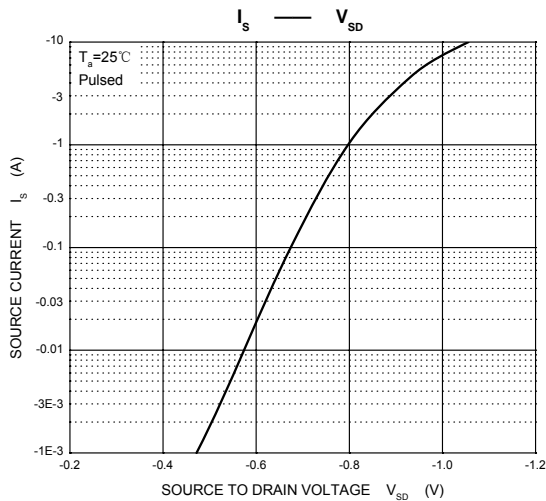
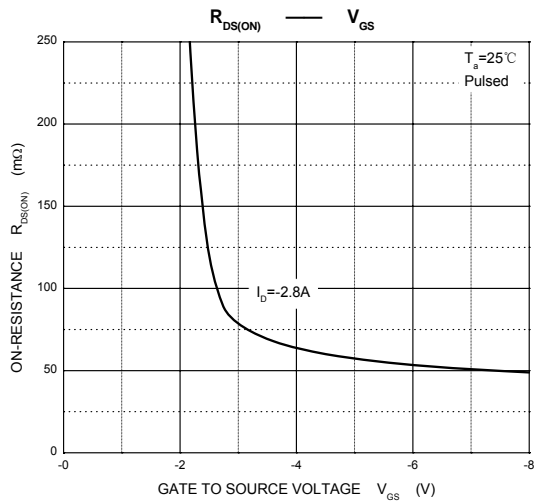
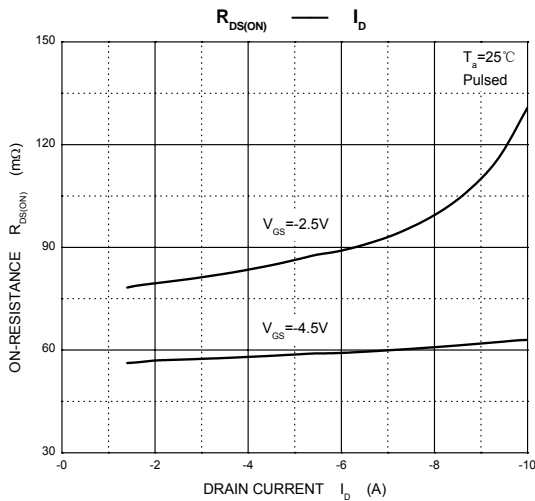
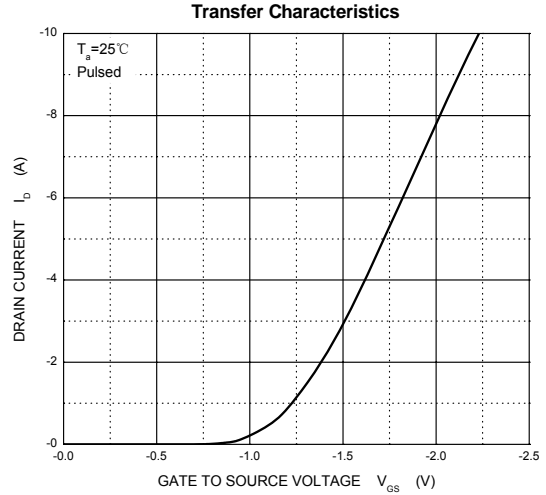
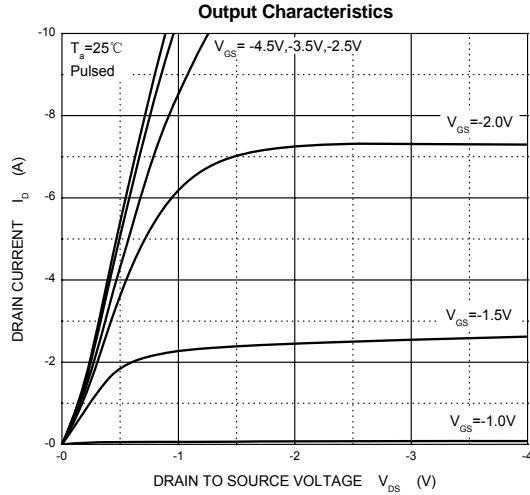
$T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 10\mu A$	-20			V
Gate-body leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 12V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1.0	μA
On characteristics						
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -0.25mA$	-0.50	-0.7	-1.50	V
Static drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -2.3A$		0.058	0.135	Ω
		$V_{GS} = -2.5V, I_D = -1.0A$		0.075	0.240	
Forward transconductance (note 1)	g_{fs}	$V_{DS} = -5V, I_D = -2.3A$	2.3			S
Dynamic characteristics (note 2)						
Input capacitance	C_{iss}	$V_{DS} = -20V, V_{GS} = 0V, f = 1MHz$			430	pF
Output capacitance	C_{oss}			100		
Reverse transfer capacitance	C_{rss}			35		
Switching characteristics						
Turn-on delay time (note 1,2)	$t_{d(on)}$	$V_{GS} = -5V, V_{DS} = -10V,$ $I_D = -1A, R_G = 3.3\Omega, R_D = 10\Omega$		9		ns
Rise time (note 2)	t_r			25		
Turn-off delay time (note 2)	$t_{d(off)}$			20		
Fall time (note 2)	t_f			10		
Drain-source body diode characteristics						
Body diode forward voltage (note 1)	V_{SD}	$I_S = -1A, V_{GS} = 0V$			-1.6	V

No tes:

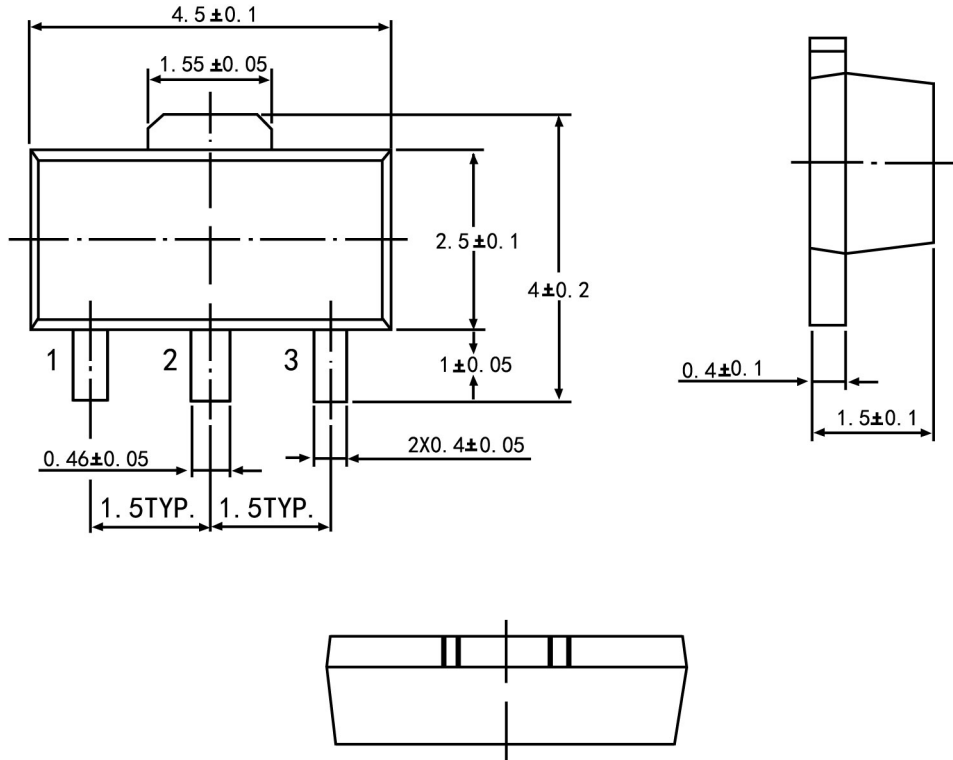
1. Pulse Test ; Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. These parameters have no way to verify.

Typical Characteristics





SOT-89 PACKAGE OUTLINE



Symbol	Dimension in Millimeters	
	Min	Max
A	1.40	1.60
B	0.44	0.62
B1	0.35	0.54
C	0.35	0.44
D	4.40	4.60
D1	1.62	1.83
E	2.29	2.60
e	1.50 Typ	
H	3.94	4.25
H1	2.63	2.93
L	0.89	1.20
All Dimensions In mm		