

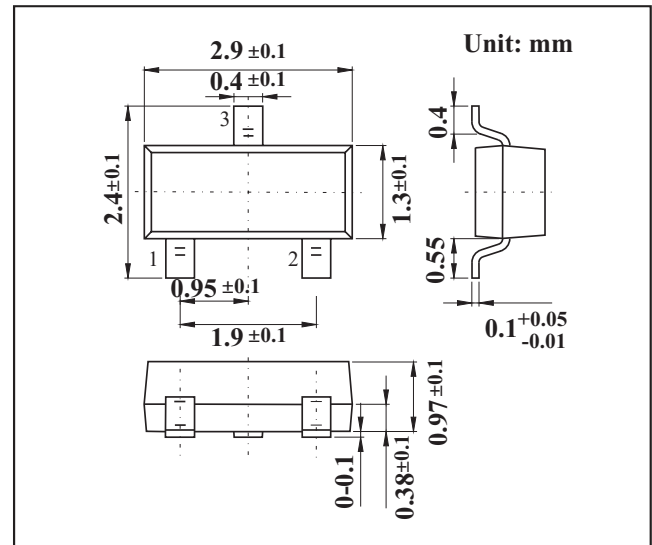
SOT-23 Plastic-Encapsulate MOSFETS

FEATURES

- V_{DS} (V) = 50V
- I_D = 200 mA (V_{GS} = 10V)
- $R_{DS(ON)} < 3.5\Omega$ (V_{GS} = 10V)
- Fast Switching Speed
- Low On-Resistance
- N-Channel MOSFET

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

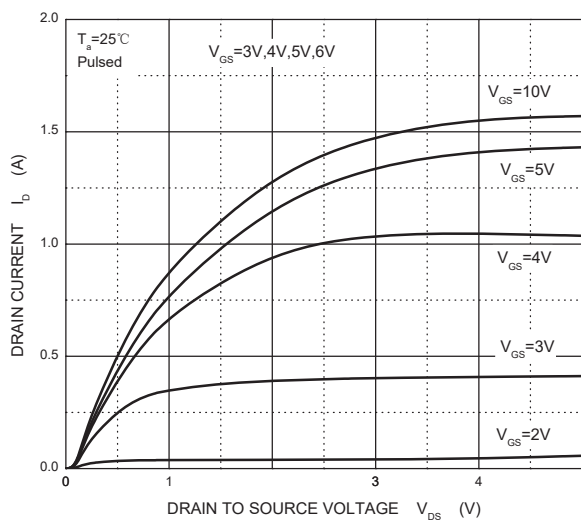
@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	50	V
Continuous Gate-Source Voltage	V_{GSS}	±20	
Continuous Drain Current	I_D	0.22	A
Pulsed Drain Current ($t_p=10\mu s$)	I_{DM}	0.88	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150	°C

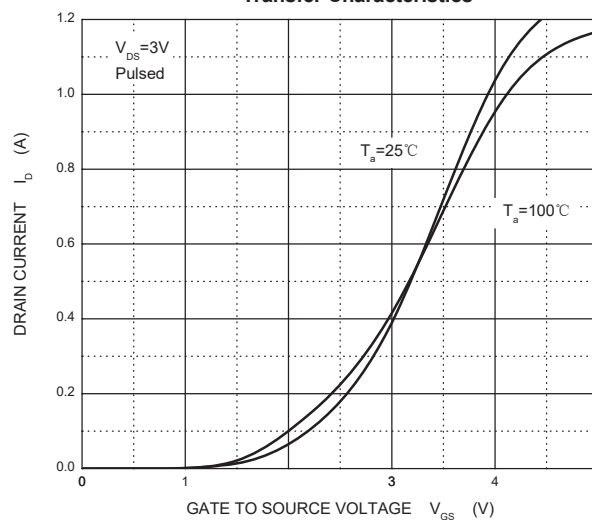
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	50			V
Gate-body leakage	I_{GSS}	$V_{DS}=10V, V_{GS} = \pm 20V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 50V, V_{GS} = 0V$			0.5	μA
		$V_{DS} = 30V, V_{GS} = 0V$			100	nA
On characteristics						
Gate-threshold voltage (note 1)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 1mA$	0.80		1.50	V
Static drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = 0V, I_D = 0.22A$		0.88	3.50	Ω
		$V_{GS} = 4.5V, I_D = 0.22A$		1.50	6	
Forward transconductance (note 1)	g_{FS}	$V_{DS} = 10V, I_D = 0.22A$	0.12			S
Dynamic characteristics (note 2)						
Input capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		27		pF
Output capacitance	C_{oss}			13		
Reverse transfer capacitance	C_{rss}			6		
Switching characteristics						
Turn-on delay time (note 1,2)	$t_{d(on)}$	$V_{DD} = 30V, V_{DS} = 10V, I_D = 0.29A, R_{GEN} = 6\Omega$			5	ns
Rise time (note 1,2)	t_r				18	
Turn-off delay time (note 1,2)	$t_{d(off)}$				36	
Fall time (note 1,2)	t_f				14	
Drain-source body diode characteristics						
Body diode forward voltage (note 1)	V_{SD}	$I_S = 0.44A, V_{GS} = 0V$			1.4	V

RATINGS AND CHARACTERISTIC CURVES

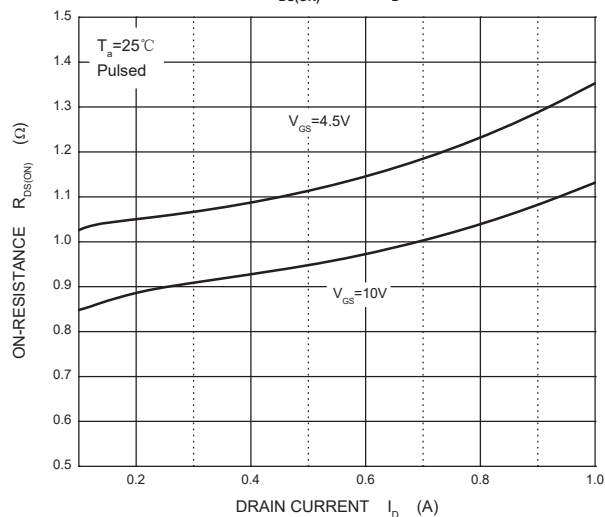
Output Characteristics



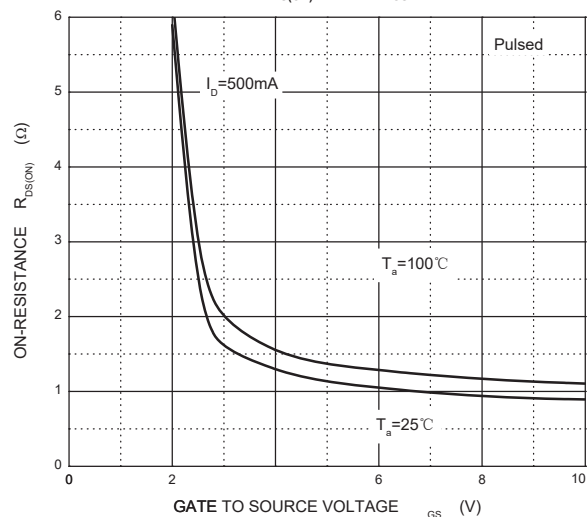
Transfer Characteristics



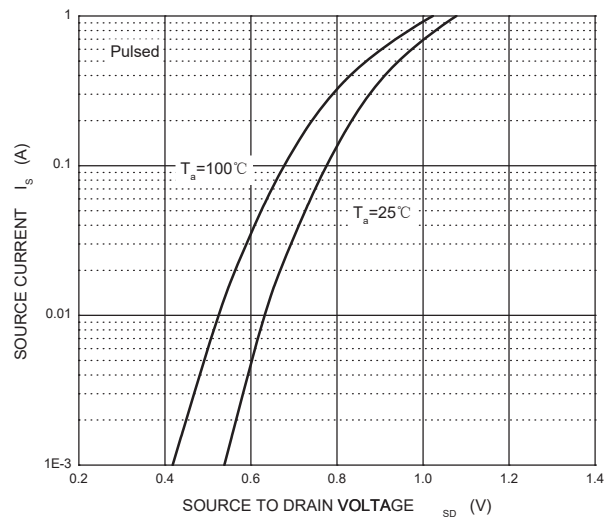
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage

