

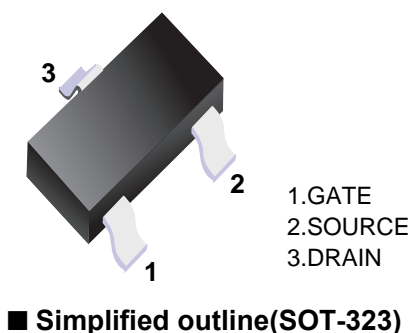
FEATURES

- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for portable equipment
- Easily designed drive circuits
- Easy to parallel

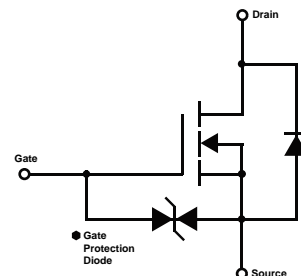
Marking

Marking

KN



Equivalent circuit



MOSFET MAXIMUM RATINGS (Ta = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source voltage	30	V
V_{GSS}	Gate-Source Voltage	± 20	V
I_D	Continuous Drain Current	0.1	A
P_D	Power Dissipation	0.2	W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55-150	°C
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	°C/W

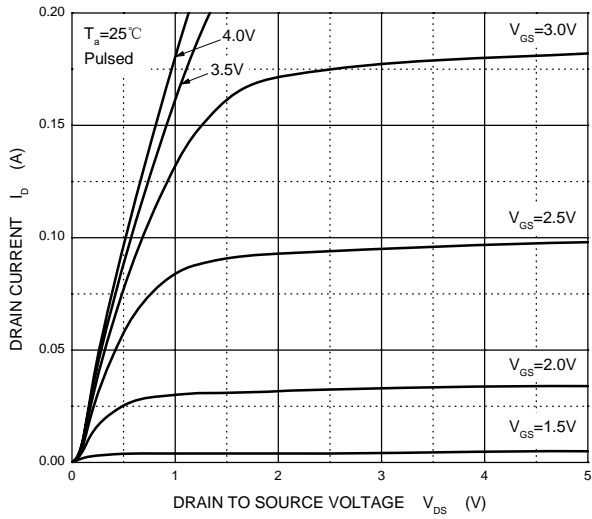
MOSFET ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=10\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			0.2	μA
Gate -Source leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 500	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=3V, I_D=100\mu A$	0.8		1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4V, I_D=10mA$			8	Ω
		$V_{GS}=2.5V, I_D=1mA$			13	Ω
Forward Transconductance	g_{FS}	$V_{DS}=3V, I_D=10mA$	20			mS
Dynamic Characteristics*						
Input Capacitance	C_{iss}	$V_{DS}=5V, V_{GS}=0V, f=1MHz$		13		pF
Output Capacitance	C_{oss}			9		pF
Reverse Transfer Capacitance	C_{rss}			4		pF
Switching Characteristics*						
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=5V, V_{DD}=5V, I_D=10mA, R_g=10\Omega, R_L=500\Omega$		15		ns
Rise Time	t_r			35		ns
Turn-Off Delay Time	$t_{d(off)}$			80		ns
Fall Time	t_f			80		ns

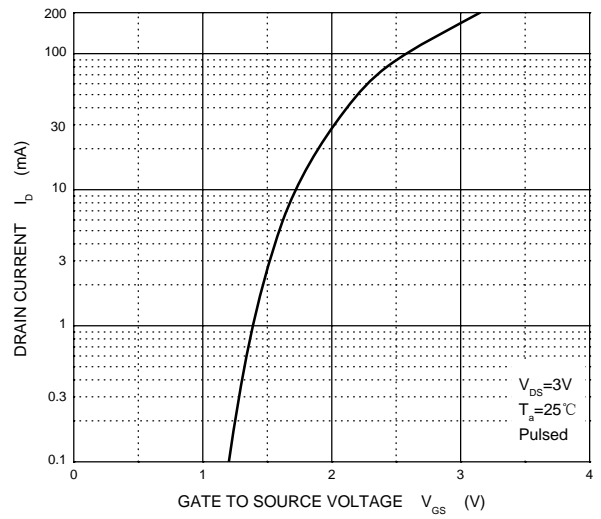
*These parameters have no way to verify.



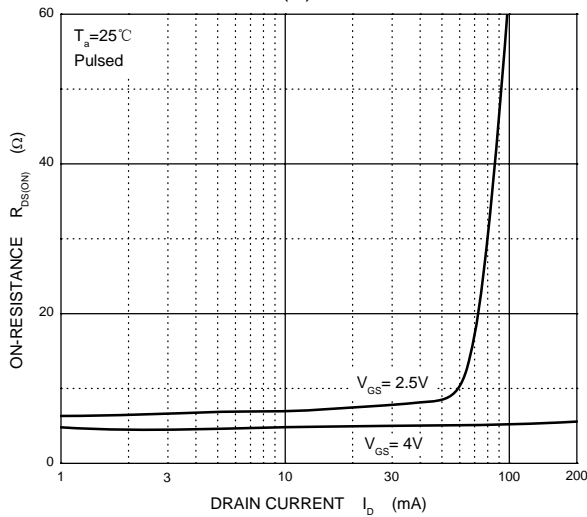
Output Characteristics



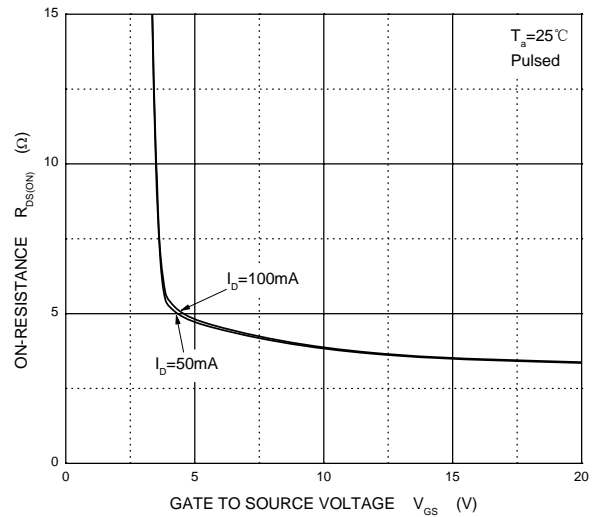
Transfer Characteristics



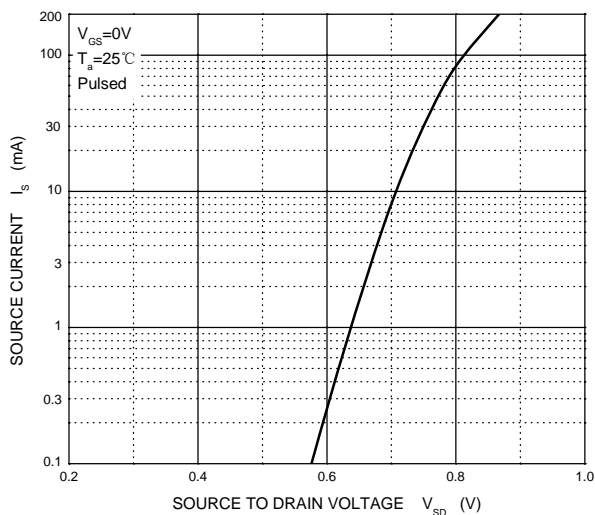
$R_{DS(ON)}$ — I_d



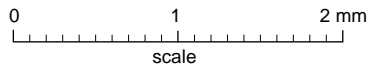
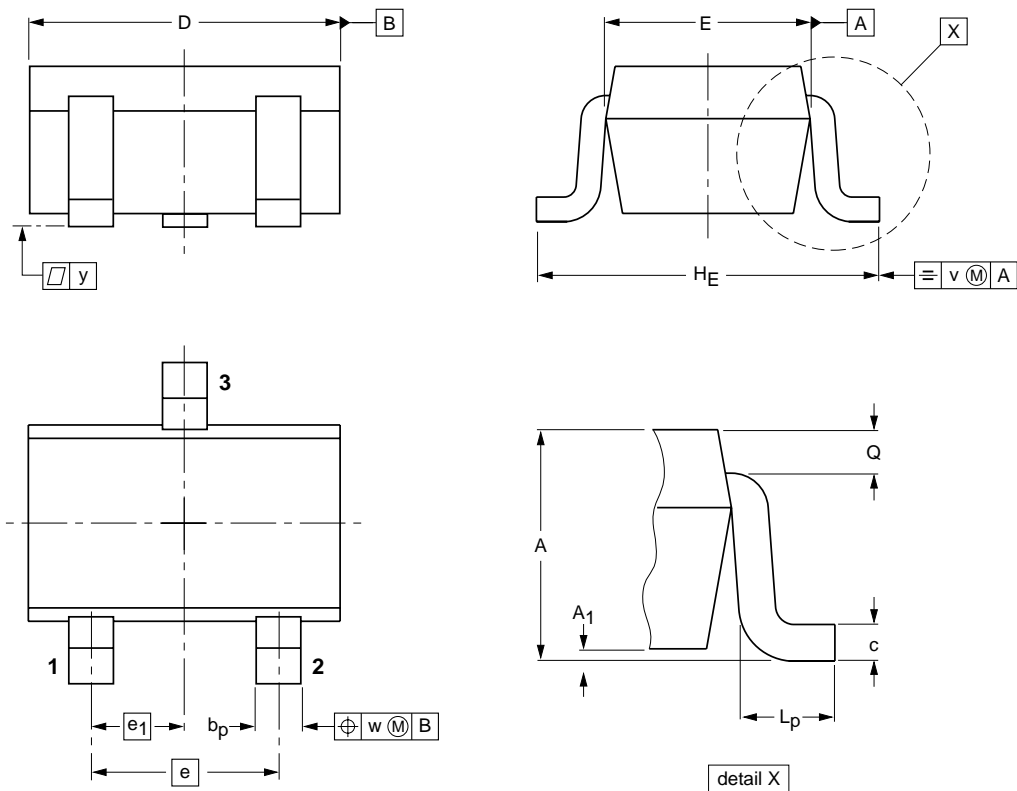
$R_{DS(ON)}$ — V_{GS}



I_s — V_{SD}



■ SOT-323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A1 max	b_p	c	D	E	e	e_1	HE	L_p	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2