

Product Summary

BVDSS	RDSON	ID
-20V	520mΩ@-4.5V	-0.66A

Application

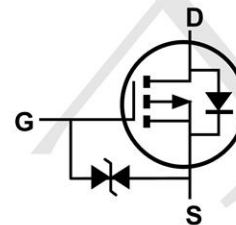
- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

Package and Pin Configuration

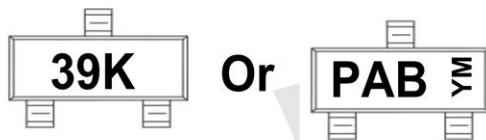
SOT-23



Circuit diagram



Marking:



YW = is internal code (1-0)

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	-20	V
Typical Gate-Source Voltage	V _{GS}	12	V
Continuous Drain Current (note 1)	I _D	-0.66	A
Pulsed Drain Current (t _p =10 μ s)	I _{DM}	-1.2	A
Power Dissipation (note 1)	P _D	350	mW
Thermal Resistance from Junction to Ambient (note 1)	R _{θJA}	357	°C/W
Operation Junction and Storage Temperature Range	T _J , T _{STG}	-55~+150	°C
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T _L	260	°C

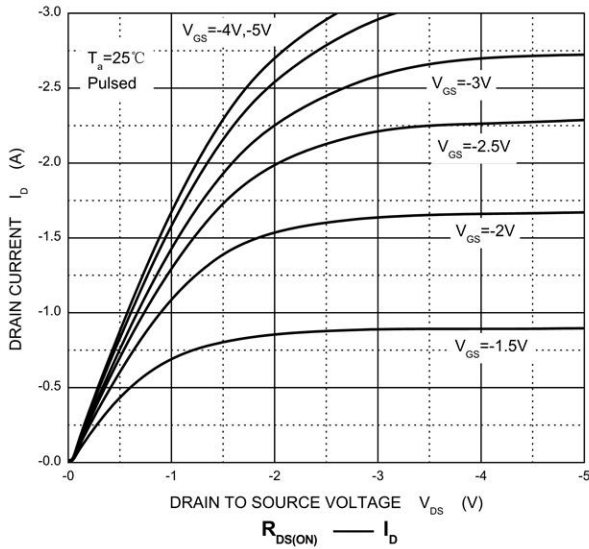
Electrical Characteristics ($T_J=25\text{ }^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = 10V, V_{DS} = 0V$			± 20	μA
Gate threshold voltage (note 2)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.35	-0.45	-1.1	V
Drain-source on-resistance (note 2)	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -1A$		430	520	$m\Omega$
		$V_{GS} = -2.5V, I_D = -0.8A$		624	700	$m\Omega$
		$V_{GS} = -1.8V, I_D = -0.5A$		950		$m\Omega$
Forward transconductance (note 2)	g_{FS}	$V_{DS} = -10V, I_D = -0.54A$		1.2		S
Diode forward voltage	V_{SD}	$I_S = -0.5A, V_{GS} = 0V$			-1.2	V
DYNAMIC CHARACTERISTICS (note 4)						
Input capacitance	C_{iss}	$V_{DS} = -16V, V_{GS} = 0V, f = 1MHz$		113	170	pF
Output capacitance	C_{oss}			15	25	pF
Reverse transfer capacitance	C_{rss}			9	15	pF
SWITCHING CHARACTERISTICS (note 4)						
Turn-on delay time (note 3)	$t_{d(on)}$	$V_{GS} = -4.5V, V_{DS} = -10V, I_D = -200mA, R_{GEN} = 10\Omega$		9		ns
Turn-on rise time (note 3)	t_r			5.8		ns
Turn-off delay time (note 3)	$t_{d(off)}$			32.7		ns
Turn-off fall time (note 3)	t_f			20.3		ns

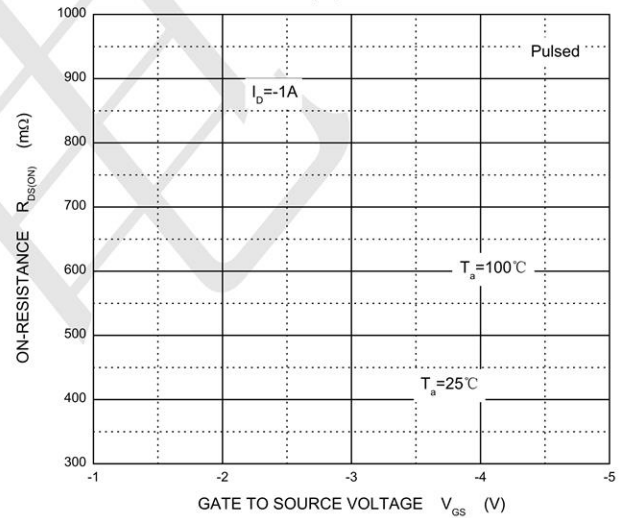
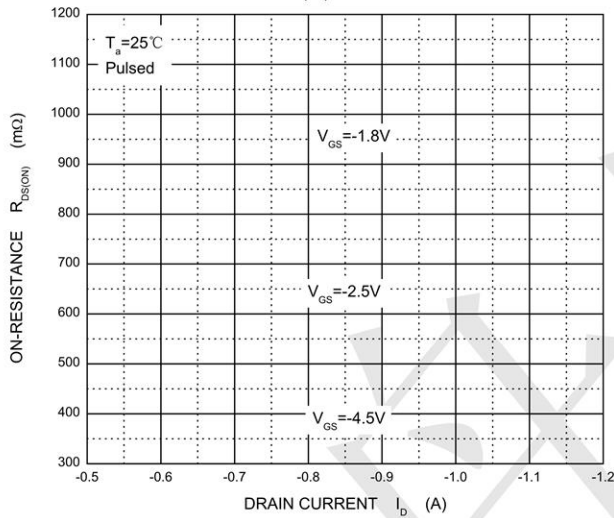
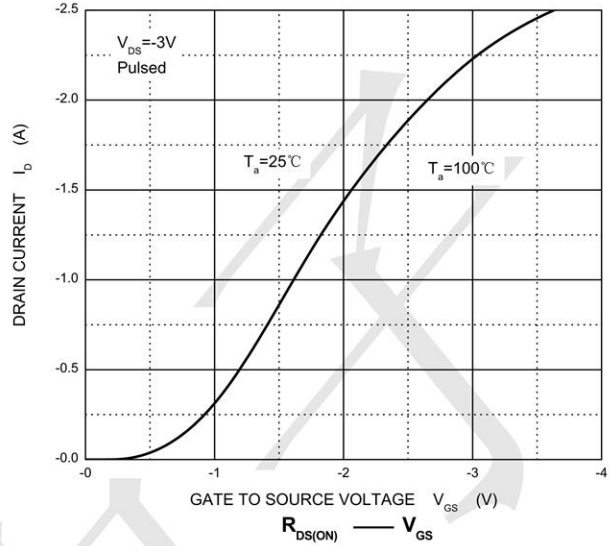


Typical Electrical and Thermal Characteristics

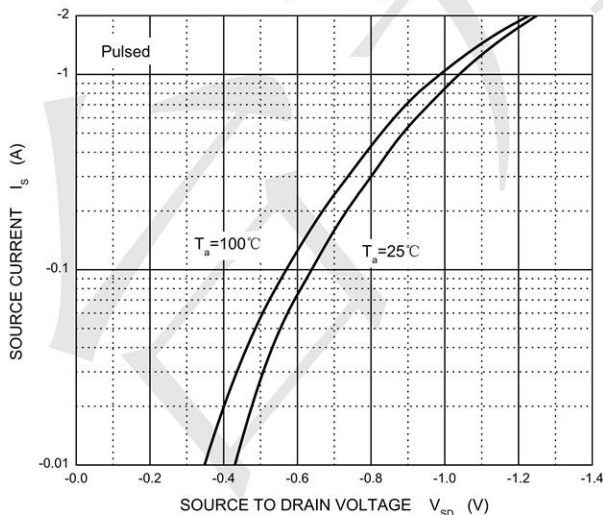
Output Characteristics



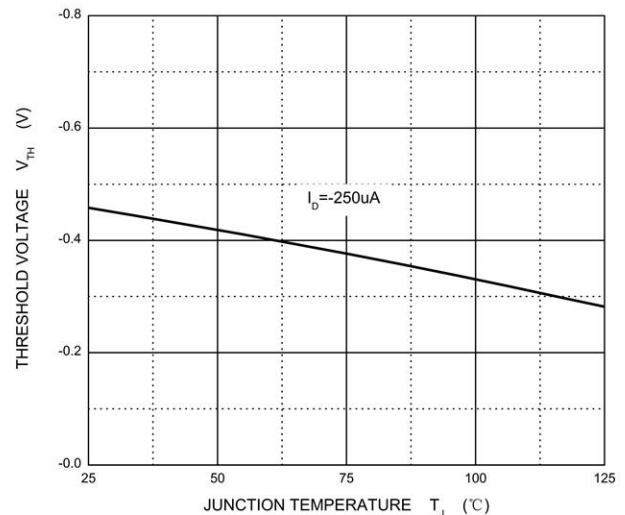
Transfer Characteristics



Source Current vs Source to Drain Voltage

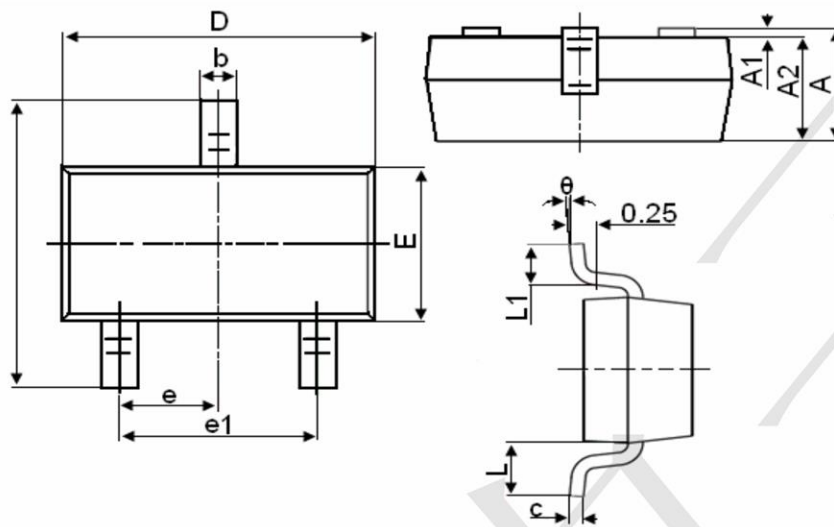


Threshold Voltage





SOT-23 Package Information



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

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