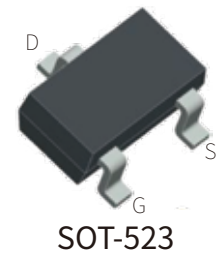


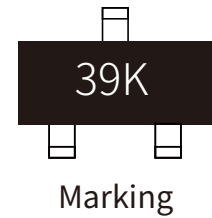
FEATURES

- | Lead Free Product is Acquired
- | Surface Mount Package
- | P-Channel Switch with Low $R_{DS(on)}$
- | Operated at Low Logic Level Gate Drive



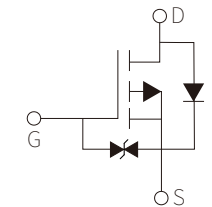
APPLICATION

- | Load/Power Switching
- | Interfacing, Logic Switching
- | Battery Management for Ultra Small Portable Electronics



APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Typical Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-0.66	A
Pulsed Drain Current ($t_p=10\mu s$)	I_{DM}	-1.2	A
Power Dissipation	P_D	150	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}C/W$
Junction Temperature	T_J	-55 to 150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$			± 20	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$			-1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.35		-1.1	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-1A$			520	m Ω
		$V_{GS}=-2.5V, I_D=-0.8A$			700	m Ω
		$V_{GS}=-1.8V, I_D=-0.5A$		950		m Ω
Forward Transconductance	g_{FS}	$V_{DS}=-10V, I_D=-0.54A$		1.2		S
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-0.5A$			-1.2	V
Dynamic Characteristics						
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						
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=-10V, I_D=-200mA$ $V_{GS}=-4.5V, R_{GEN}=10\Omega$		9		ns
Turn-on Rise Time	t_r			5.8		ns
Turn-Off Delay Time	$t_{d(off)}$			32.7		ns
Turn-off Fall Time	t_f			20.3		ns

PARAMETER CHARACTERISTIC CURVE

Figure1: Output Characteristics

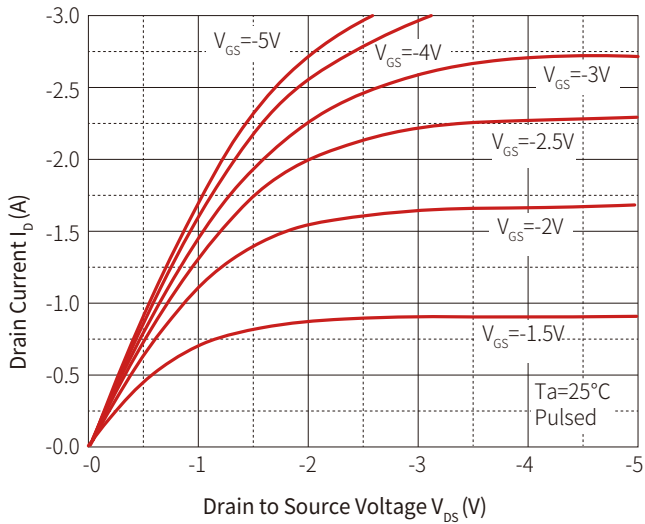


Figure2: Transfer Characteristics

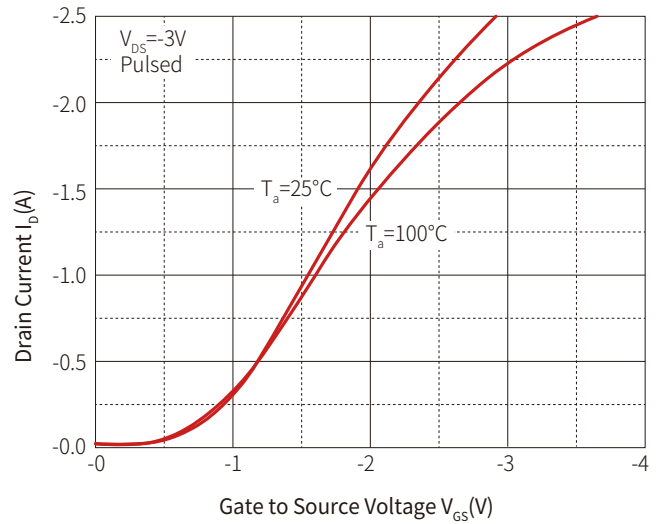


Figure3: $R_{DS(ON)} - I_D$

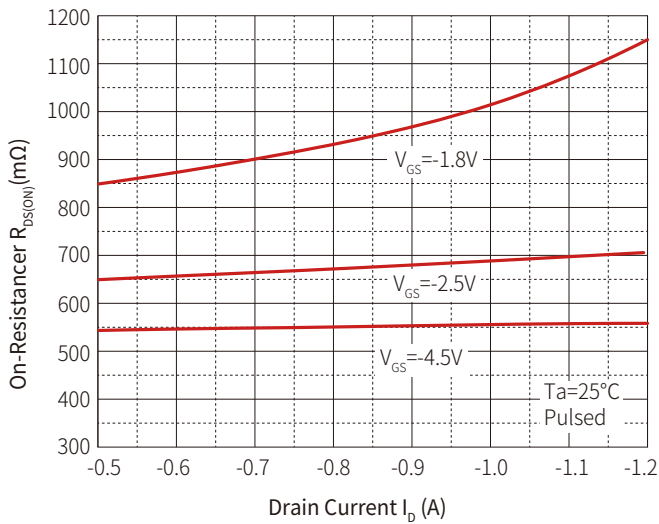


Figure 4: $R_{DS(ON)} - V_{GS}$

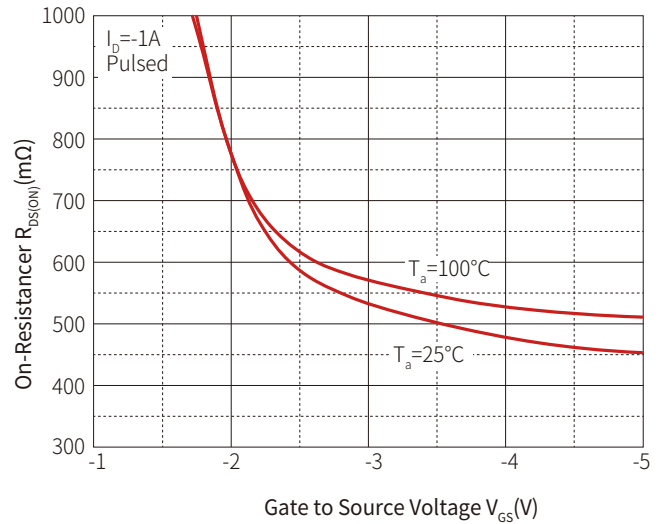
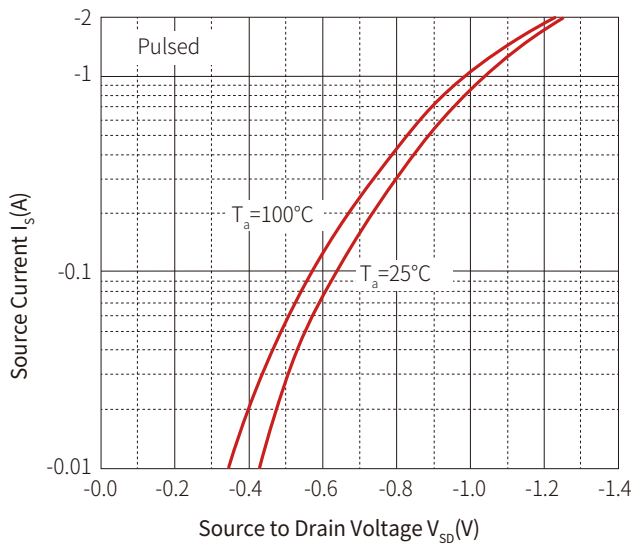
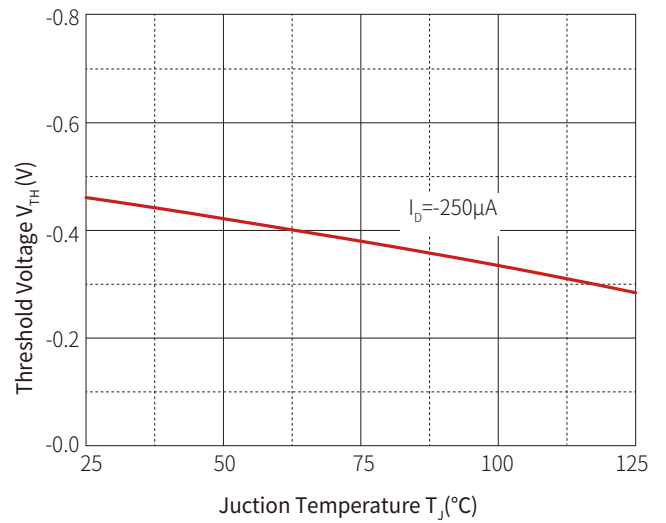
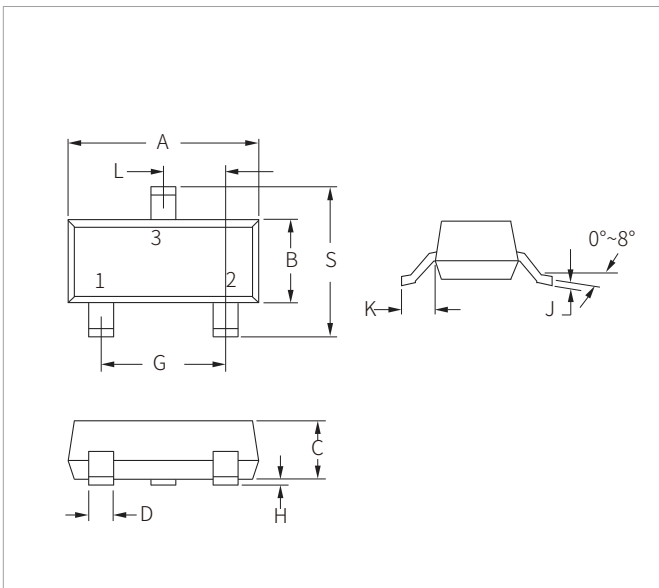


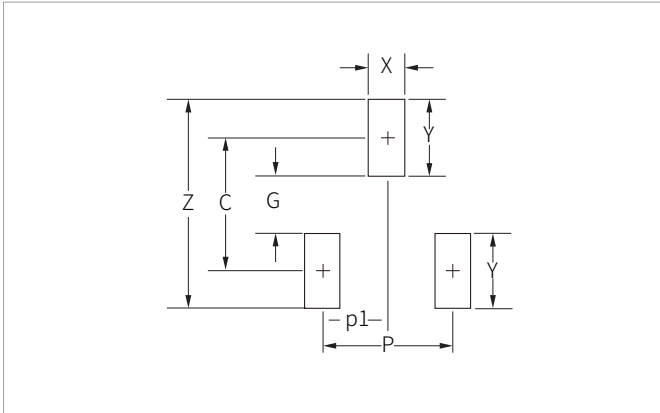
Figure 5: I_s — V_{SD}

Figure 6: Threshold Voltage


SOT-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.70	0.059	0.067
B	0.75	0.85	0.029	0.033
C	0.60	0.80	0.023	0.031
D	0.15	0.30	0.005	0.012
G	1.00BSC		0.039BSC	
H	0.00	0.10	0.000	0.004
J	0.10	0.20	0.004	0.008
K	(0.22)		(0.009)	
L	0.50BSC		0.020BSC	
S	1.45	1.75	0.057	0.069

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(1.40)	(0.055)
P	1.00	0.039
p1	0.50	0.020
G	0.60	0.024
X	0.40	0.016
Y	0.80	0.031
Z	2.20	0.087

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SPM3139TK	SOT-523	3000PCS	7"

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By QR Code

Website



Wechat

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