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规格承认书 APPROVAL SHEET

客户名称：

CUSTOMER _____

产品名称：

P mos (ESD)

PART NAME _____

封装：

SOT-523

Package _____

产品规格：

-20V / -0.8A

PART NUMBER _____

日期：

DATE _____

确 认 CONFIRM

客户

品保部： _____

制造部： _____

工程部： _____

供货商/制造商

制作： _____

审核： _____

核准： _____

FH2339

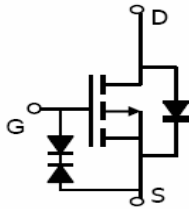
P-Channel Enhancement Mode Power MOSFET

Application

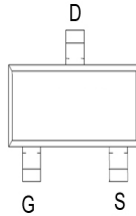
- Load/Power Switching
- Interfacing, Logic Switching
- Battery Management for Ultra Small Portable Electronics

General Features

- ◆ $V_{DS} = -20V$, $I_D = -0.8 A$
 $R_{DS(ON)}(Typ.) = 460 m\Omega$ @ $V_{GS} = -4.5V$
 $R_{DS(ON)}(Typ.) = 580 m\Omega$ @ $V_{GS} = -2.5V$
 $R_{DS(ON)}(Typ.) = 950 m\Omega$ @ $V_{GS} = -1.8V$
- Lead Free Product is Acquired
- Surface Mount Package
- P-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive



Schematic diagram



Marking and Pin Assignment



SOT-523 top view

Absolute Maximum Ratings (TA=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	-0.8	A
Pulsed Drain Current ($t_p=10 \mu s$)	I_{DM}	-1.5	A
Power Dissipation (note 1)	P_D	150	mW
Thermal Resistance from Junction to Ambient (note 1)	$R_{\theta JA}$	833	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~+150	°C
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	°C

Electrical Characteristics (TA=25°C unless otherwise noted)

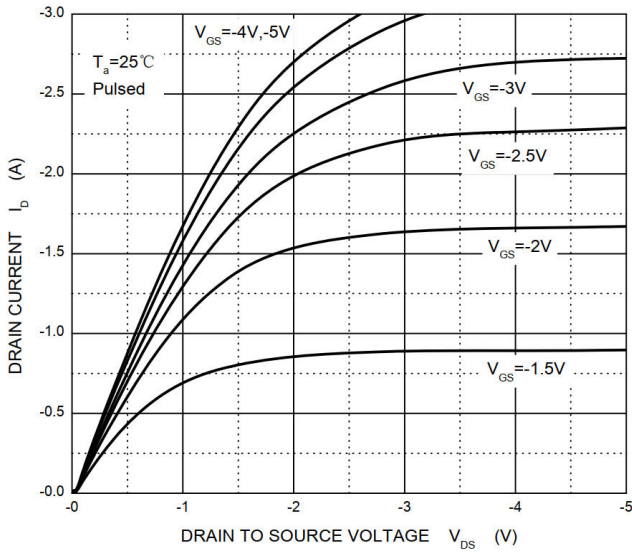
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 20	μA
Gate threshold voltage (note 2)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.7	-0.85	1.1	V
Drain-source on-resistance (note 2)	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -0.8A$		460	520	m Ω
		$V_{GS} = -2.5V, I_D = -0.8A$		580	700	m Ω
		$V_{GS} = -1.8V, I_D = -0.5A$		950	1270	m Ω
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	

Notes :

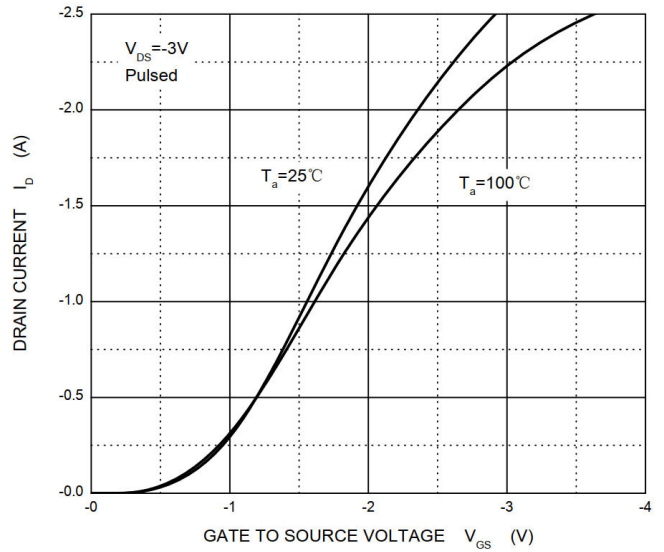
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300 μs , Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producing.

TYPICAL CHARACTERISTICS

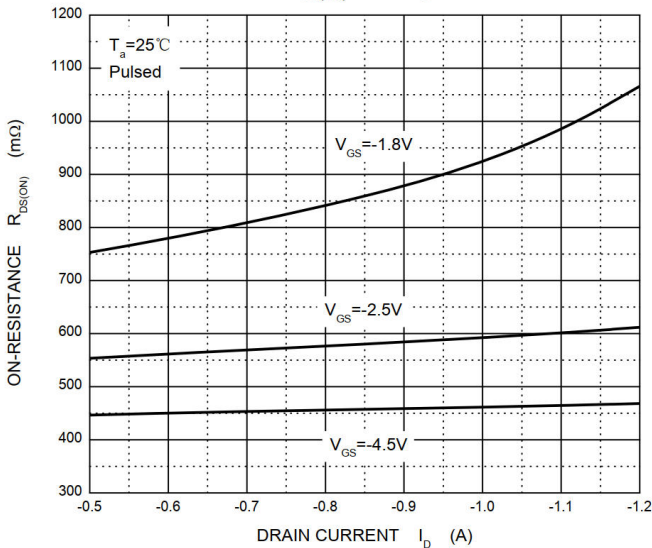
Output Characteristics



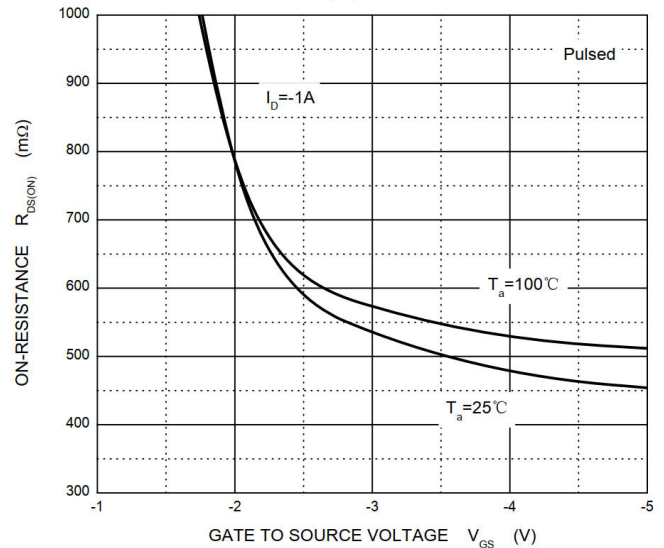
Transfer Characteristics



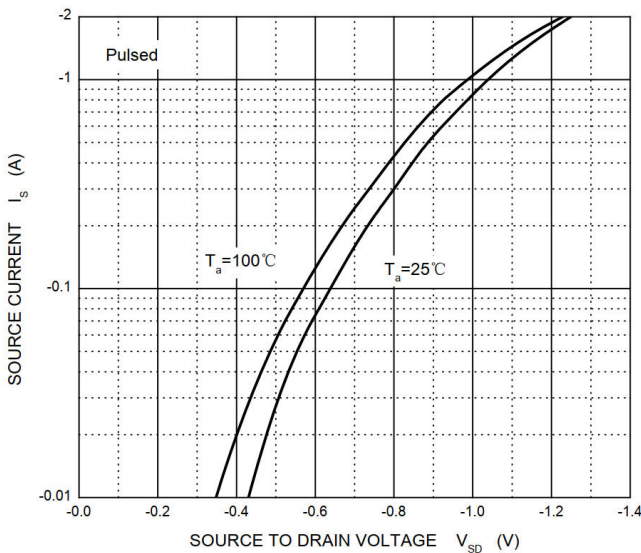
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage

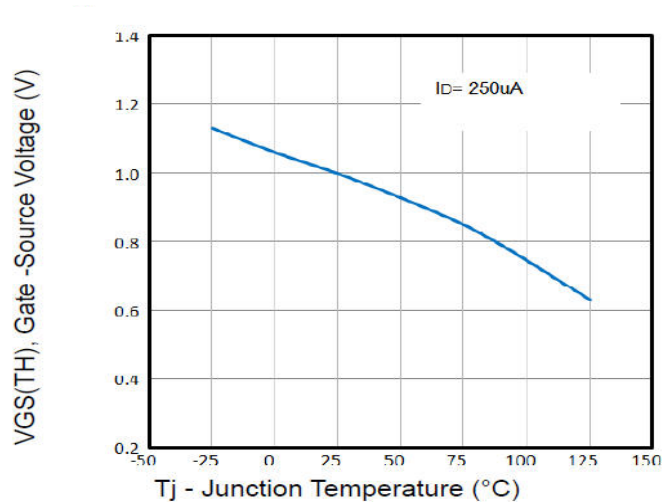
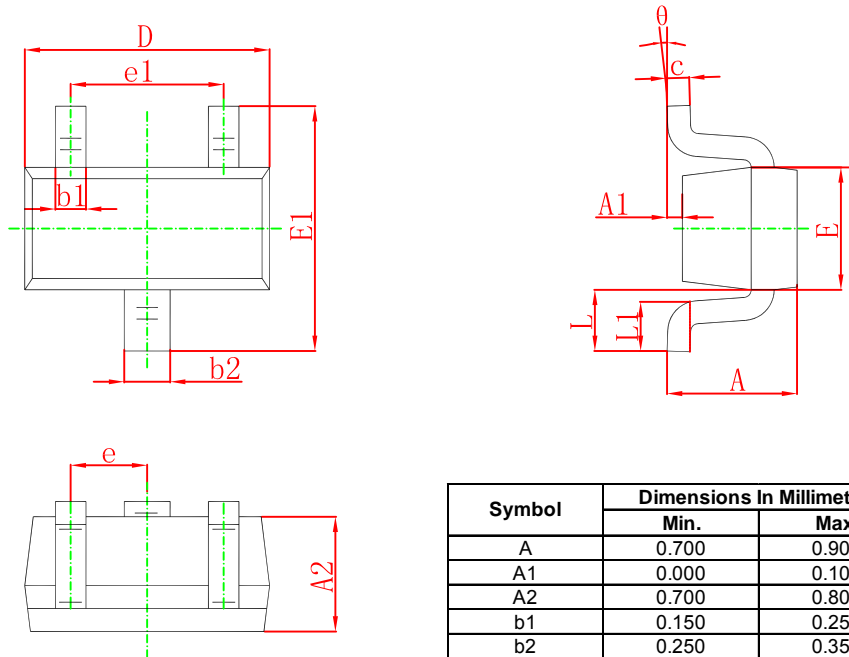


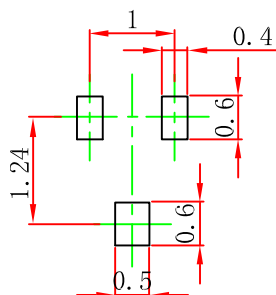
Fig2. Normalized Threshold Voltage Vs. Temperature

PACKAGE INFORMATION : SOT-523



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-523 Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.