



YOUSHANG SEMICONDUCTOR

设计研发新型功率器件

各类小信号开关

中低压及高压大电流等场效应管

0755-83047638
ysbdt@szyoushang.cn
www.szyoushang.cn



企业微信二维码



企业QQ二维码

Product Summary

$V_{(BR)DSS}$	$R_{DS(ON) \max}$	I_D $T_A = +25^\circ\text{C}$
-100V	20Ω @ $V_{GS} = -10V$	-75mA

Features and Benefits

- Low Input Capacitance
- Fast Switching Speed
- Small Surface Mount Package

Description

This MOSFET is designed to minimize the on-state resistance ($R_{DS(on)}$) and yet maintain superior switching performance, making it ideal for high-efficiency power management applications.

Applications

- General Purpose Switches
- Power Management Functions

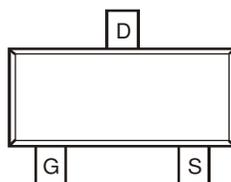
Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Lead-Free Plating (Matte Tin Finish Annealed over Alloy 42 Leadframe).
- Terminals: Solderable per MIL-STD-202, Method 208 e3
- Terminal Connections: See Diagram
- Weight: 0.008 grams (Approximate)

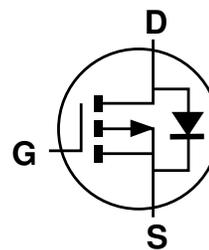
SOT23



Top View



Top View
Pin Configuration



Equivalent Circuit

Maximum Ratings (@ $T_A = +25^\circ\text{C}$ unless otherwise specified.)

Characteristic	Symbol	Value	Units
Drain-Source Voltage	V_{DSS}	-100	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	I_D	-75	mA
Pulsed Drain Current	I_{DM}	-1.2	A

Thermal Characteristics (@ $T_A = +25^\circ\text{C}$ unless otherwise specified.)

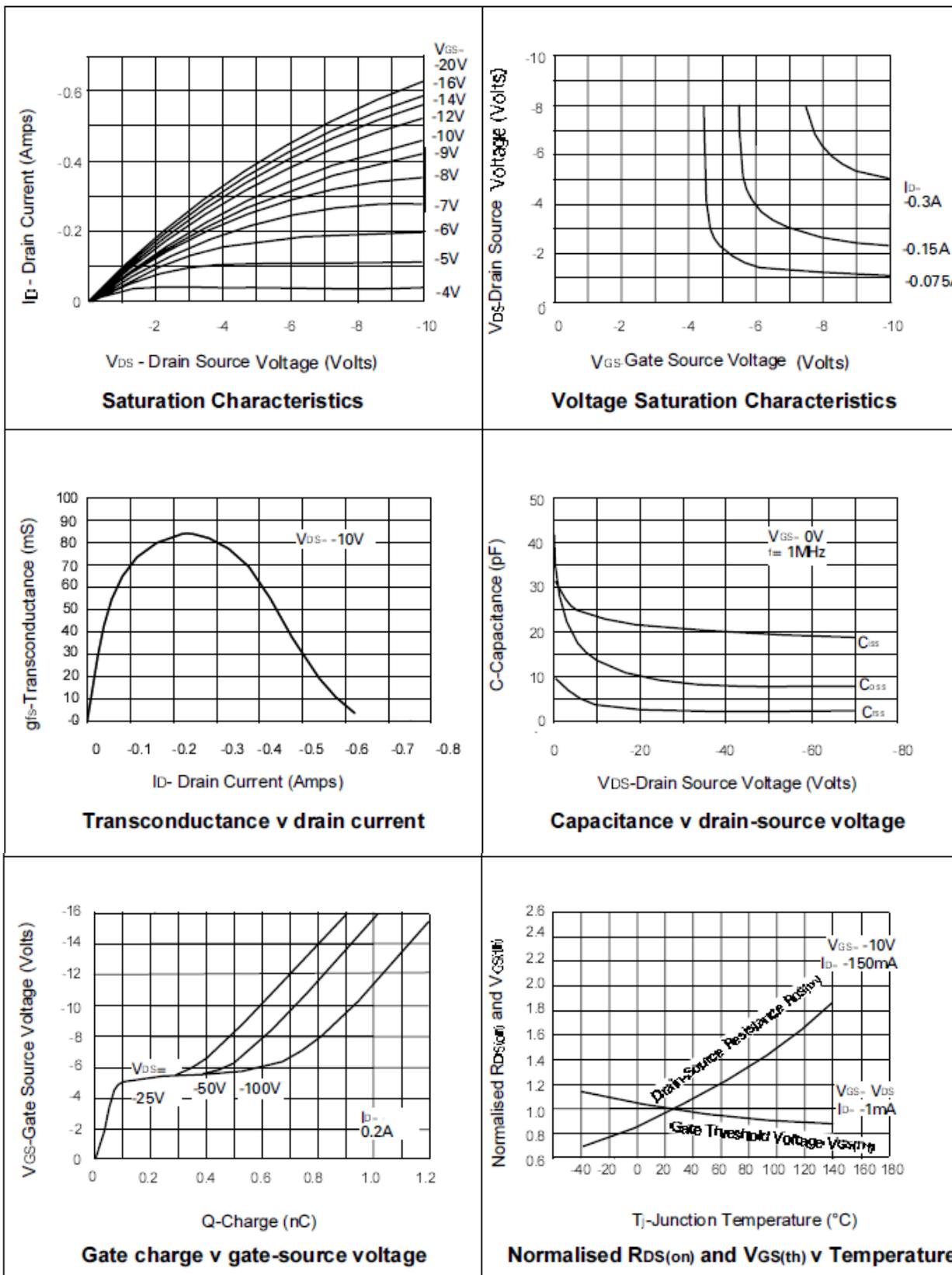
Characteristic	Symbol	Value	Units
Total Power Dissipation	P_D	330	mW
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$ unless otherwise specified.)

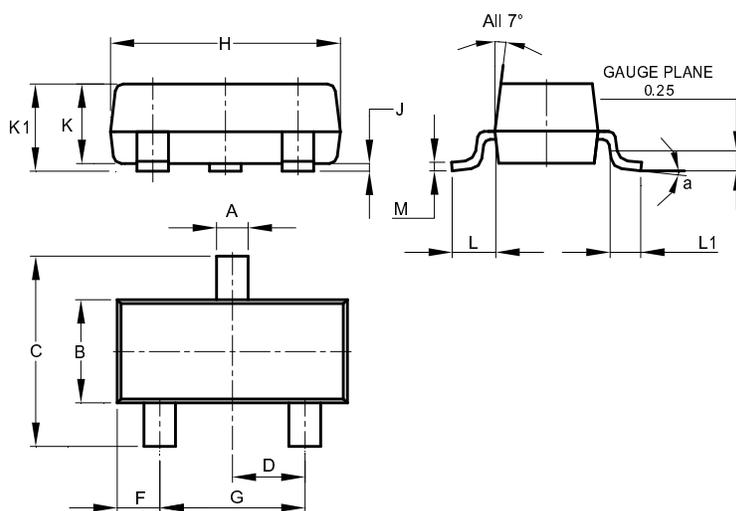
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	-100	—	—	V	$V_{GS} = 0V, I_D = -1mA$
Zero Gate Voltage Drain Current	I_{DSS}	—	—	-1	μA	$V_{DS} = -100V, V_{GS} = 0V$
		—	—	-50	μA	$V_{DS} = -80V, V_{GS} = 0V, T = +125^\circ\text{C}$ (Note 7)
Gate-Body Leakage	I_{GSS}	—	—	± 20	nA	$V_{GS} = \pm 20V, V_{DS} = 0V$
ON CHARACTERISTICS (Note 6)						
Gate Threshold Voltage	V	-1.5	—	-3.5	V	$V_{DS} = V_{GS}, I_D = -1mA$
On-State Drain Current	I	-300	—	—	mA	$V_{DS} = -25V, V_{GS} = -10V$
Static Drain-Source On-Resistance	R_{DS}	—	—	20	Ω	$V_{GS} = -10V, I_D = -150mA$
Forward Transconductance (Note 7)	g_{fs}	50	—	—	mS	$V_{DS} = -25V, I_D = -150mA$
DYNAMIC CHARACTERISTICS (Note 7)						
Input Capacitance	C_{iss}	—	—	50	pF	$V_{DS} = -25V, V_{GS} = 0V,$ $f = 1MHz$
Output Capacitance	C_{oss}	—	—	15		
Reverse Transfer Capacitance	C_{rss}	—	—	5		
Turn-On Delay Time (Note 8)	t	—	—	8	nS	$V_{DD} \approx -25V, I_D = -150mA$
Turn-On Rise Time (Note 8)	t_r	—	—	8		
Turn-Off Delay Time (Note 8)	t	—	—	8		
Turn-Off Fall Time (Note 8)	t_f	—	—	8		

- Notes:
6. Measured under pulsed conditions. Width=300 μs . Duty cycle $\leq 2\%$.
 7. Sample Test.
 8. Switching times measured with 50 Ω source impedance and <5ns rise time on a pulse generator.

Typical Characteristics

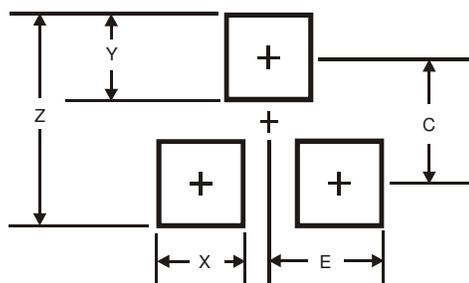


Package Outline Dimensions



SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	8°		
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35