

FEATURES

- TrenchFET Power MOSFET
- Load Switch for Portable Devices
- DC/DC Converter

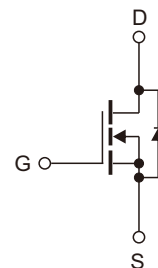
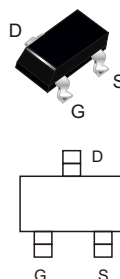


Product Summary		
V_{DS}	$R_{DS(on)}$ (Ω) Max	I_D (A)
50V	2.5 @ 10V	0.34
	3 @ 4.5V	

MECHANICAL DATA

- Case: SOT-23(TO-236)
- Terminals: Plated solderable per MIL-STD-750, method 2026
- Mounting Position: Any

SOT-23



N-channel MOSFET

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameters		Symbol	Value	Unit
Drain-Source voltage		V_{DS}	50	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_A=25^\circ\text{C}$ @ Steady State	I_D	340	mA
	$T_A=70^\circ\text{C}$ @ Steady State		272	
Maximum Power Dissipation @ $T_A=25^\circ\text{C}$		P_D	350	mW
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Thermal Resistance Ratings

Parameters	Symbol	Typ	Max	Unit
Junction to Ambient, Steady State	$R_{\theta JA}$	-	357	$^\circ\text{C}/\text{W}$

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

Parameters	Symbol	Conditions	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250μA	50	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =50V, V _{GS} =0V, T _C =25°C	-	-	1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} =0V	-	-	±100	nA
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =1mA	0.8	-	1.6	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} = 4.5V, I _D =0.2A	-	1.2	3.0	Ω
		V _{GS} = 10V, I _D =0.3A	-	1.1	2.5	
Dynamic						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz	-	17.5	-	pF
Output Capacitance	C _{oss}		-	11.5	-	
Reverse Transfer Capacitance	C _{rss}		-	6.5	-	
Total Gate Charge	Q _g	V _{DS} =25V, V _{GS} =10V, I _D =0.3A	-	1.7	2.4	nC
Gate-Source Charge	Q _{gs}		-	-	-	
Gate-Drain Charge	Q _{gd}		-	-	-	
Turn-on Delay Time	t _{D(on)}	V _{GS} =10V, V _{DD} =25V, I _D =0.3A, R _{GEN} =6Ω	-	5	-	ns
Turn-off Delay Time	t _{D(off)}		-	17	-	
Turn-On Rise Time	t _{rr}		-	30	-	
Drain-Source Body Diode Characteristics						
Maximum Body-Diode Continuous Current	I _S		-	-	0.34	A
Diode Forward Voltage	V _{SD}	I _S =0.3A, V _{GS} =0V	-	-	1.2	V

Typical Performance Characteristics

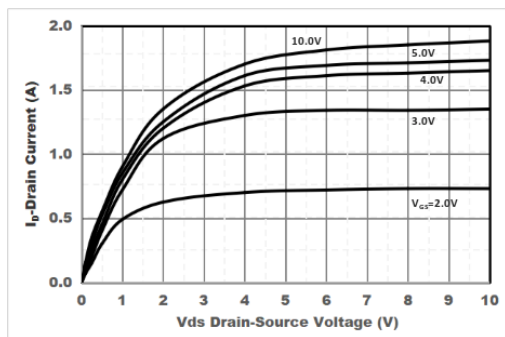


Figure1. Output Characteristics

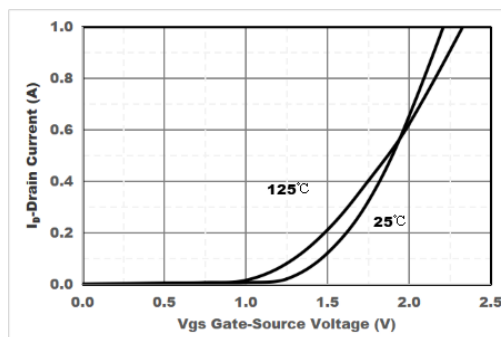


Figure2. Transfer Characteristics

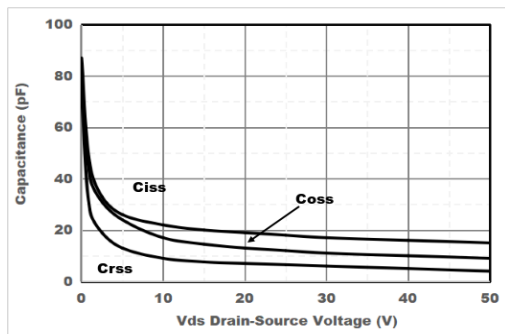


Figure3. Capacitance Characteristics

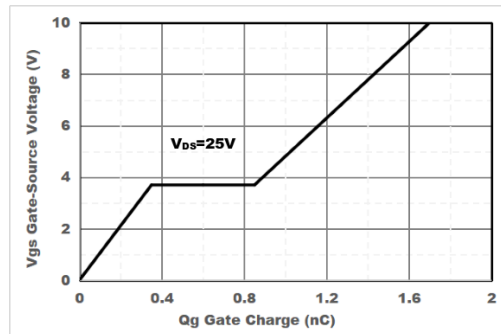


Figure4. Gate Charge

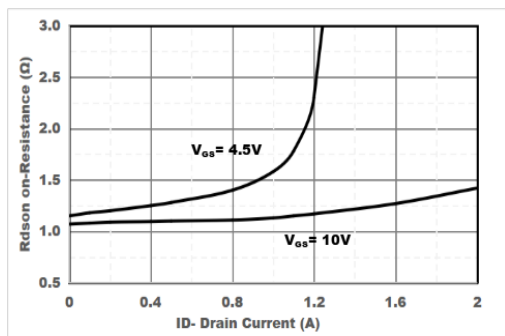


Figure5. Drain-Source on Resistance

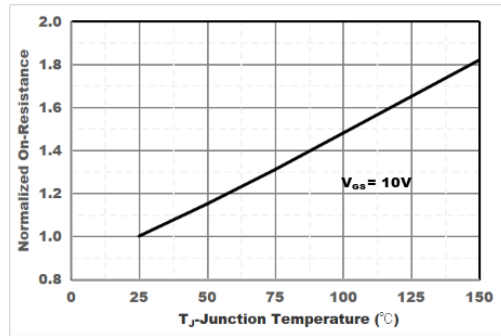


Figure6. Drain-Source on Resistance

Typical Performance Characteristics

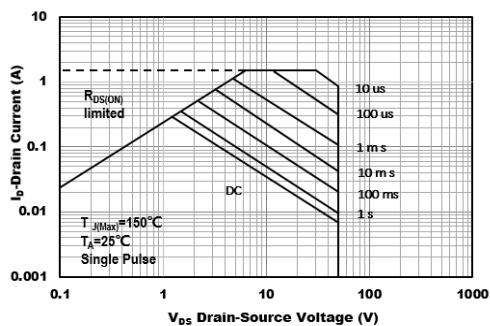


Figure7. Safe Operation Area

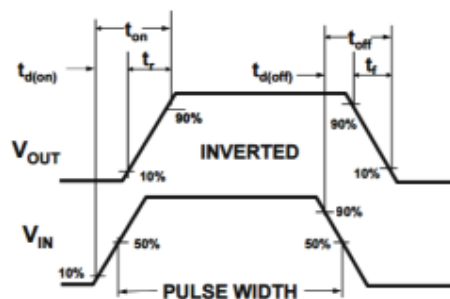
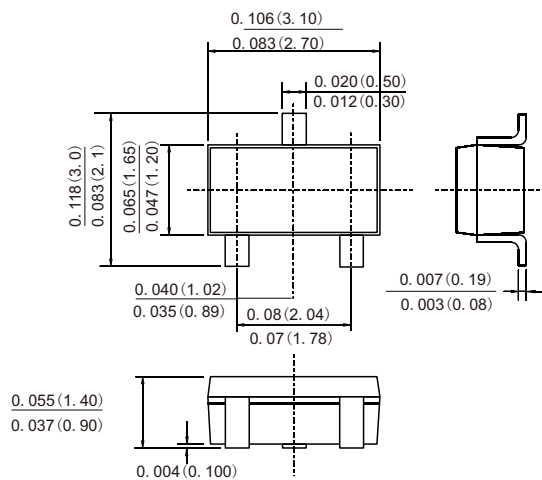


Figure8. Switching wave

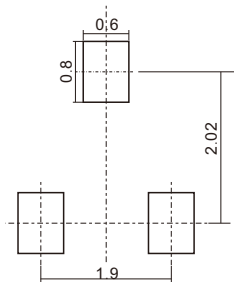
Outline Dimensions

SOT-23



Dimensions in inches and (millimeters)

Suggested pad layout



Dimensions in millimeters

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