

FEATURES

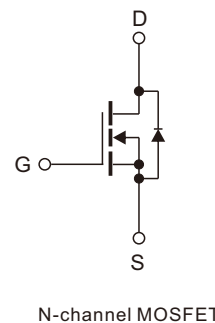
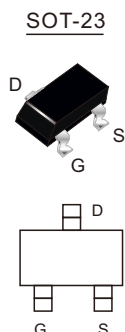
- $R_{DS(ON)} < 5.0\Omega @ V_{GS} = 10V$
- $R_{DS(ON)} < 5.5\Omega @ V_{GS} = 4.5V$
- TrenchFET Power MOSFET



Product Summary			
V_{DS}	$R_{DS(on)}$ (Ω) Typ	I_D (mA)	Q_g (Typ)
100V	3.0 @ 10V	200	1.8nc
	3.5 @ 4.5V	175	

MECHANICAL DATA

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



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

Parameters		Symbol	Value	Unit
Drain-Source voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_A = 25^\circ C$ @Steady State	I_D	200	mA
	$T_A = 70^\circ C$ @Steady State		160	
Maximum Power Dissipation @ $T_A = 25^\circ C$		P_D	350	mW
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to +150	$^\circ C$

Thermal Resistance Ratings

Parameters	Symbol	Typ	Max	Unit
Junction to Ambient, Steady State ²⁾	$R_{\theta JA}$	-	357	$^\circ C/W$

2. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

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	100	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =100V, 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 =250μA	1.0	1.8	2.5	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =175mA	-	3.5	5.5	Ω
		V _{GS} =10V, I _D =200mA	-	3.0	5.0	
Dynamic						
Input Capacitance	C _{iss}	V _{DS} =50V, V _{GS} =0V, f=1MHz	-	14	-	pF
Output Capacitance	C _{oss}		-	10	-	
Reverse Transfer Capacitance	C _{rss}		-	5	-	
Total Gate Charge	Q _g	V _{DS} =50V, V _{GS} =10V, I _D =0.2A	-	1.8	2.5	nC
Gate-Source Charge	Q _{gs}		-	-	-	
Gate-Drain Charge	Q _{gd}		-	-	-	
Turn-on Delay Time	t _{d(on)}	V _{GS} =10V, V _{DD} =50V, I _D =0.2A, R _{GEN} =6Ω	-	1.7	-	ns
Turn-On Rise Time	t _r		-	9	-	
Turn-off Delay Time	t _{d(off)}		-	17	-	
Turn-Off Fall Time	t _f		-	7	-	
Drain-Source Body Diode Characteristics						
Maximum Body-Diode Continuous Current	I _S		-	-	0.2	A
Diode Forward Voltage	V _{SD}	I _S =0.2A, V _{GS} =0V	-	-	1.2	V

Typical Performance Characteristics

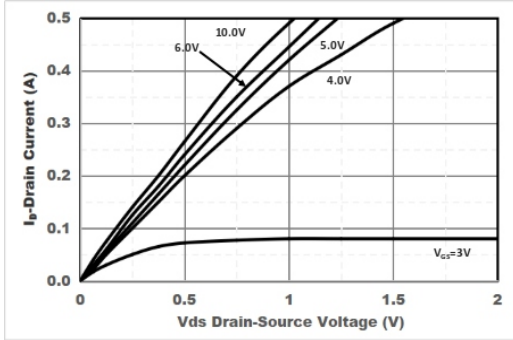


Figure1. Output Characteristics

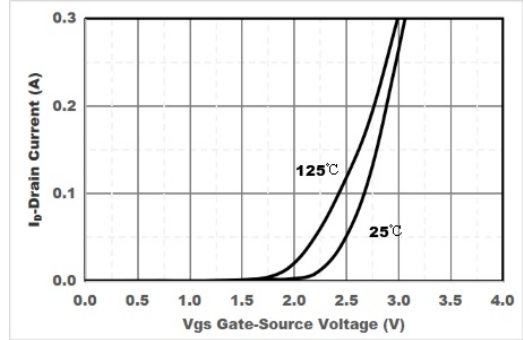


Figure2. Transfer Characteristics

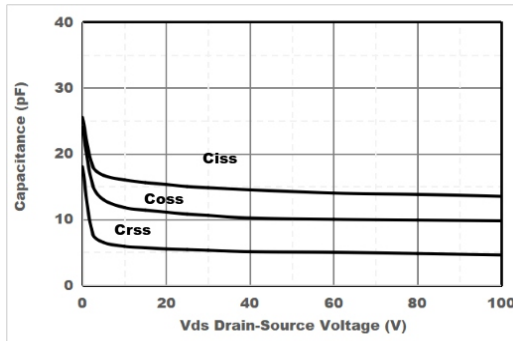


Figure3. Capacitance Characteristics

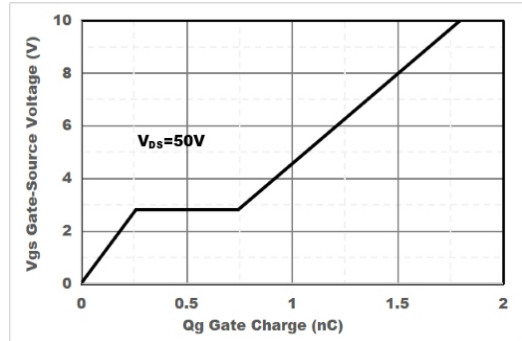


Figure4. Gate Charge

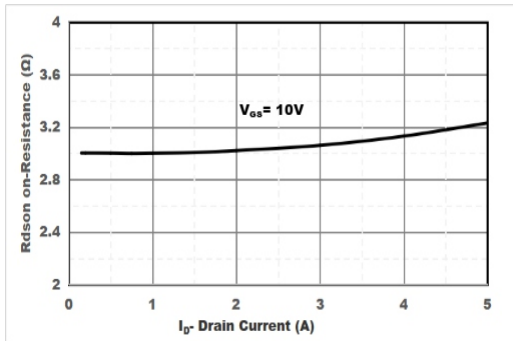


Figure5. Drain-Source on Resistance

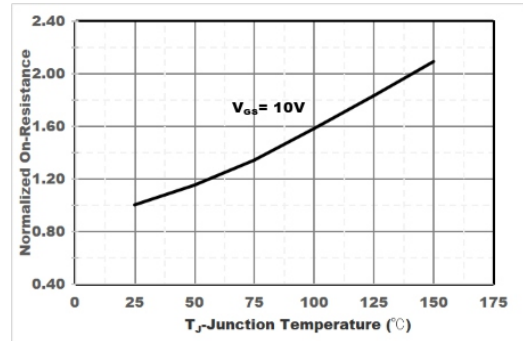


Figure6. Drain-Source on Resistance

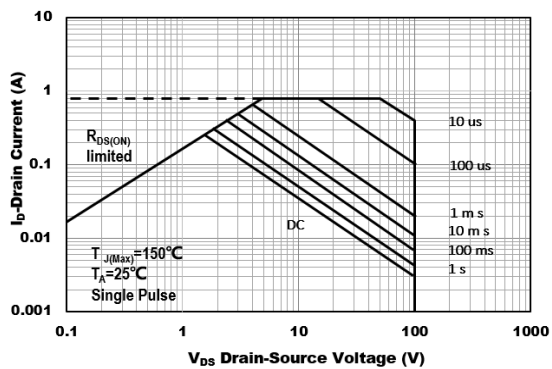


Figure7. Safe Operation Area

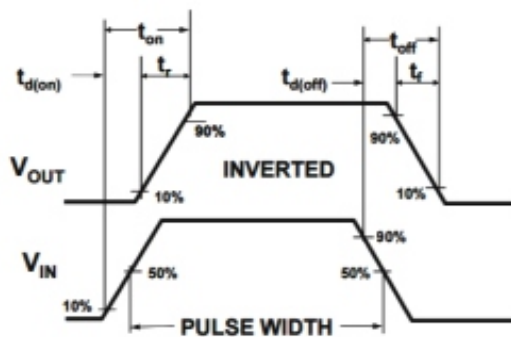
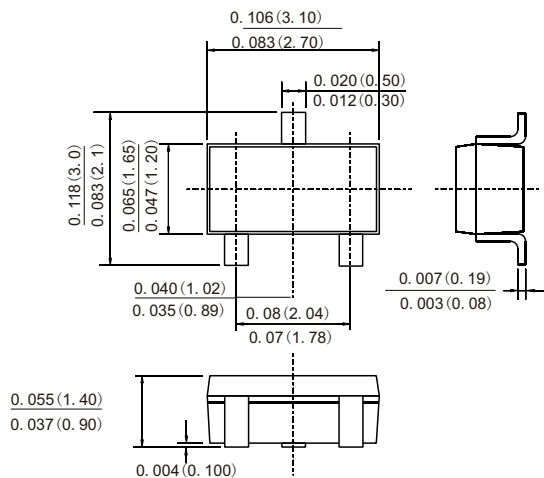


Figure8. Switching wave

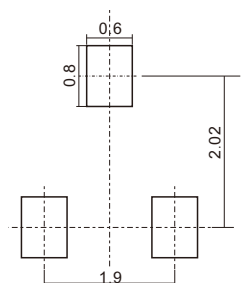
PACKAGE OUTLINE DIMENSIONS

SOT-23



Dimensions in inches and (millimeters)

Suggested Pad Layout



Dimensions in millimeters

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