

FEATURES

- RDS(ON) < 42mΩ @ VGS = -4.5V
- RDS(ON) < 55mΩ @ VGS = -2.5V
- RDS(ON) < 75mΩ @ VGS = -2V

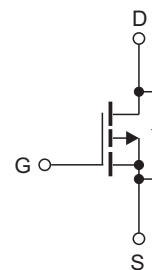
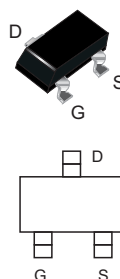


Product Summary			
V _{DS}	R _{DS(on)} (mΩ) Typ	I _D (A)	Q _g (Typ)
-20V	33 @ -4.5V	-5.6	7.2nc
	39 @ -2.5V	-4	

MECHANICAL DATA

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

SOT-23



P-channel MOSFET

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameters	Symbol	Value	Unit
Drain-Source voltage	V _{DS}	-20	V
Gate-Source Voltage	V _{GS}	±10	V
Continuous Drain Current (T _J = 150°C)	I _D	T _A =25°C	-5.4
		T _A =70°C	-4.4
Pulsed Drain Current ¹⁾	I _{DM}	-22	A
Maximum Power Dissipation @T _A =25°C	P _o	1.2	W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Thermal Resistance Ratings

Parameters	Symbol	Typ	Max	Unit
Junction to Ambient, Steady State ²⁾	R _{θJA}	-	104	°C/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	-20	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V, T _C =25°C	-	-	-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = 10V, V _{DS} =0V	-	-	100	nA
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =-250μA	-0.4	-0.62	-1.0	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = -4.5V, I _D =-5.4A	-	33	42	mΩ
		V _{GS} = -2.5V, I _D =-4A	-	39	55	
		V _{GS} = -1.8V, I _D =-3A	-	49	75	
Dynamic						
Input Capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V, f=1MHz	-	830	-	pF
Output Capacitance	C _{oss}		-	132	-	
Reverse Transfer Capacitance	C _{rss}		-	85	-	
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-4.5V, I _D =-4A	-	7.2	-	nC
Gate-Source Charge	Q _{GS}		-	1.2	-	
Gate-Drain Charge	Q _{GD}		-	1.6	-	
Turn-on Delay Time	t _{D(on)}	V _{GS} =-4.5V, V _{DD} =-10V, R _L =2.5Ω, R _{GEN} =3Ω	-	15	-	ns
Turn-On Rise Time	t _r		-	63	-	
Turn-off Delay Time	t _{D(off)}		-	21	-	
Turn-Off Fall Time	t _f		-	12	-	
Drain-Source Body Diode Characteristics						
Maximum Body-Diode Continuous Current	I _S		-	-	-5.6	A
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V	-	-0.8	-1.2	V

Notes: 1. Pulse Test: Pulse Width≤300us, Duty cycle ≤2%.
 2. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

Typical Characteristics

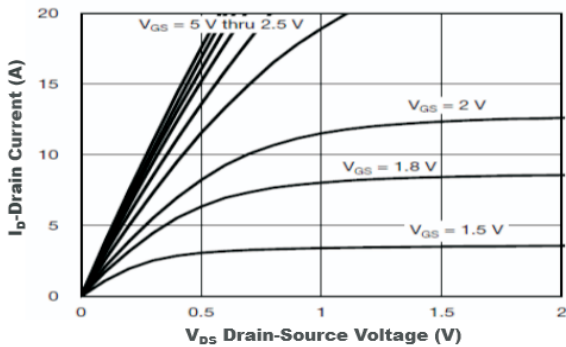


Figure1. Output Characteristics

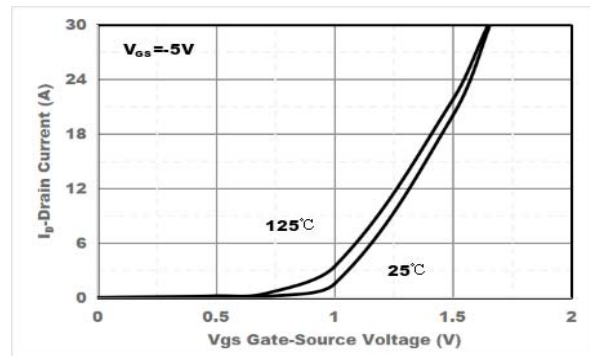


Figure2. Transfer Characteristics

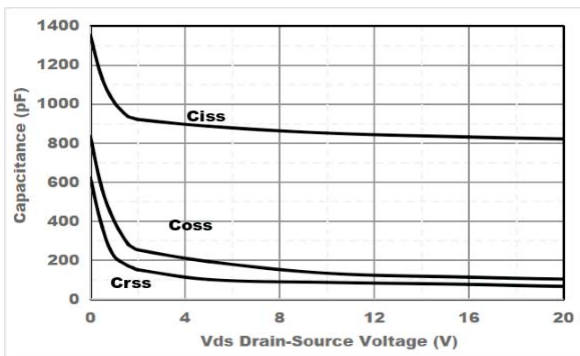


Figure3. Capacitance Characteristics

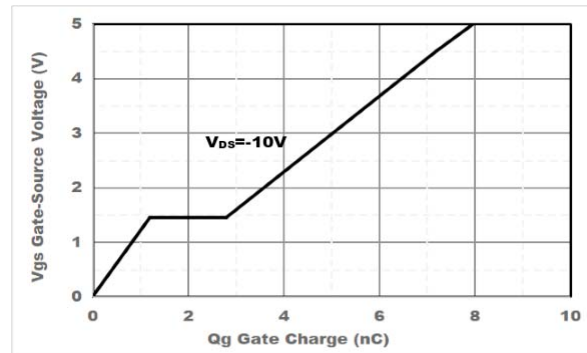


Figure4. Gate Charge

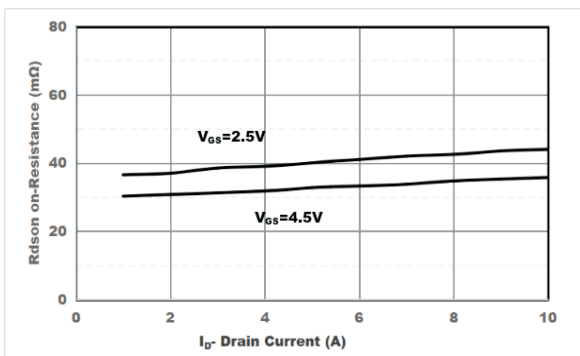


Figure5. Drain-Source on Resistance

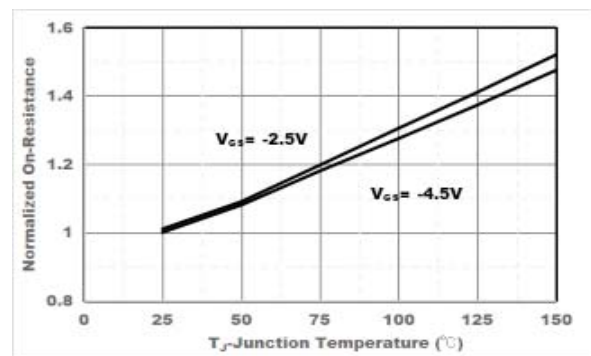


Figure6. Drain-Source on Resistance

Typical Characteristics

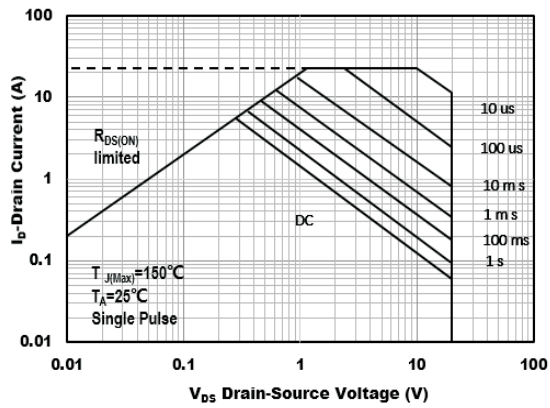


Figure7. Safe Operation Area

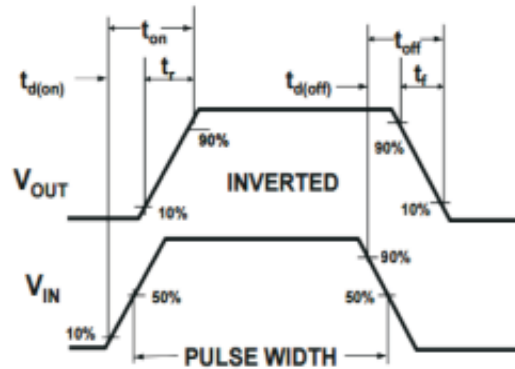
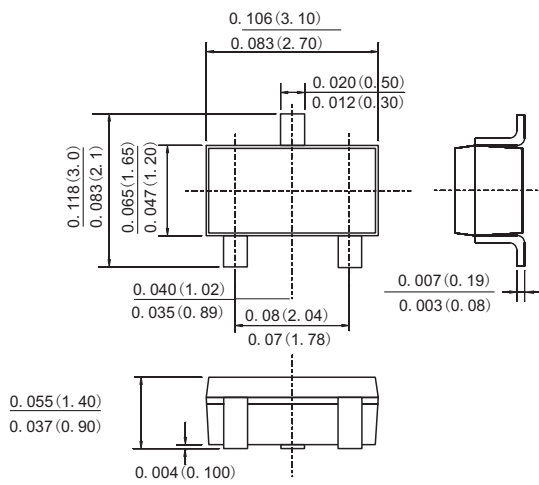


Figure8. Switching wave

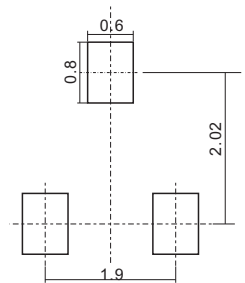
PACKAGE OUTLINE DIMENSIONS

SOT-23



Dimensions in inches and (millimeters)

Suggested Pad Layout



Dimensions in millimeters

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