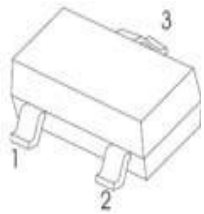
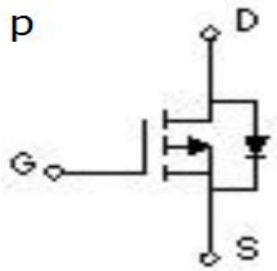
P-Channel 20-V(D-S) MOSFET	SOT-23 Plastic-Encapsulate MOSFETS

SOT-23



1.GATE
2.SOURCE
3.DRAIN

Equivalent Circuit



Features

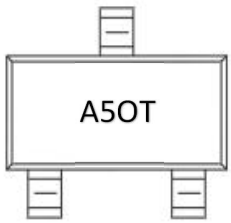
※ TrenchFET Power MOSFET

Application

※ Load Switch for Portable Devices

※ DC/DC Converter

MARKING



V(BR)DSS	RDS(on)MAX	ID
-20 V	65mΩ@-4.5V	-4A
	90mΩ@-2.5V	

Maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	VDS	-20	V
Gate-Source Voltage	VGS	±12	
Continuous Drain Current	ID	-4	A
Pulsed Diode Curren	IDM	-20	
Continuous Source-Drain Current(Diode Conduction)	IS	-1.3	
Power Dissipation	PD	1	W
Thermal Resistance from Junction to Ambient (t≤5s)	RθJA	200	℃/W
Operating Junction	TJ	150	℃
Storage Temperature	TSTG	-55~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

Static Electrical Characteristics (Ta = 25 ℃ Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	V(BR)DSS	VGS = 0V, ID =-250μA	-20			V
Gate-source threshold voltage	VGS(th)	VDS =VGS, ID =-250μA	-0.5		-1	V
Gate-source leakage	IGSS	VDS =0V, VGS =±16V			±100	nA
Zero gate voltage drain current	IDSS	VDS =-20V, VGS =0V			-1	μA
Drain-source on-state resistancea	RDS(on)	VGS =-4.5V, ID = -3.2A		43	65	mΩ
		VGS =-2.5V, ID =-2A		56	90	mΩ
Forward transconductancea	gfs	VDS =-4.5V, ID =-4A		4		S
Diode forward voltage	VSD	IS=-1.25A,VGS=0V			-1.3	V
Dynamic						
Input capacitance	Ciss	VDS =-10V,VGS =0V, f=1MHz		415		pF
Output capacitance	Coss			223		pF
Reverse transfer capacitanceb	Crss			87		pF
Total gate charge	Qg	VDS =-10V,VGS =-4.5V, ID =-4.5A		24	36	nC
Gate-source charge	Qgs			18		nC
Gate-drain charge	Qgd			2.7		nC
Gate resistance	Rg	f=1MHz		6.0		Ω
Switchingb						
Turn-on delay time	td(on)	VDD=-10V RL=10Ω, ID ≈-1A, VGEN=-4.5V,Rg=6Ω		22	35	ns
Rise time	tr			35	60	ns
Turn-off delay time	td(off)			45	70	ns
Fall time	tf			25	40	ns
Drain-source body diode characteristics						
Continuous Source-Drain Diode Current	IS	Tc=25℃			-1.3	A
Pulsed Diode forward Curren	ISM				-20	A

Note :

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t < 5 sec.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

TYPICAL ELEC TRICAL AND THERMAL CHARACTERISTICS