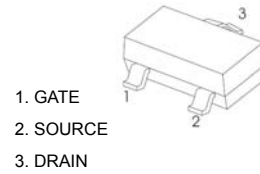




P-Channel 20-V(D-S) MOSFET

$V_{(BR)DSS}$	$R_{D(s(on))MAX}$	I_D
-20V	90mΩ@-4.5V	2.8A
	110Ω@-4.5V	

SOT-23



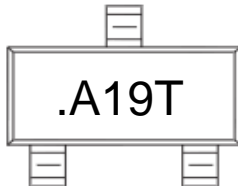
FEATURE

- Trench FET Power MOSFET

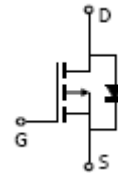
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±8	
Continuous Drain Current ($T_J=150^{\circ}C$)	I_D	-2.8	A
Pulsed Drain Current	I_{DM}	-10	
Continuous Source-Drain Diode Current	I_S	-0.72	
Maximum Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient($t=5s$)	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{stg}	-55 ~+150	



ELECTRICAL CHARACTERISTICS (Ta=25 °C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units	
Static							
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V	
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4		-1		
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 100	nA	
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1	μA	
Drain-source on-state resistance ^a	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -2.0A$		0.090		Ω	
		$V_{GS} = -2.5V, I_D = -1.5A$		0.110			
Forward transconductance ^a	g_{fs}	$V_{DS} = -5V, I_D = -2.8A$		4.0		S	
Dynamic^b							
Input capacitance	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$		405		pF	
Output capacitance	C_{oss}			75			
Reverse transfer capacitance	C_{rss}			55			
Total gate charge	Q_g	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -3A$		5.5	10	nC	
Gate-source charge	Q_{gs}		$V_{DS} = -10V, V_{GS} = -2.5V, I_D = -3A$		3.3		6
Gate-drain charge	Q_{gd}				0.7		
Gate resistance	R_g	$f = 1MHz$		6.0		Ω	
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -10V,$ $R_L = 10\Omega, I_D = -1A,$ $V_{GEN} = -4.5V, R_g = 1\Omega$		11	20	ns	
Rise time	t_r			35	60		
Turn-off delay time	$t_{d(off)}$			30	50		
Fall time	t_f			10	20		
Drain-source body diode characteristics							
Continuous source-drain diode current	I_S	$T_C = 25^\circ C$			-1.3	A	
Pulse diode forward current ^a	I_{SM}				-10		
Body diode voltage	V_{SD}	$I_S = -0.7A$		-0.8	-1.2	V	

Notes :

- a.Pulse Test : Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.
- b.Guaranteed by design, not subject to production testing.