

PW1P10

-100V P-Channel MOSFET

-1.0A -100V; $R_{DS(ON)typ}=650m\Omega@-4.5V$, $R_{DS(ON)typ}=580m\Omega@-10V$,

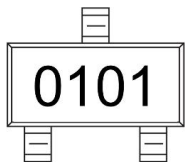
FEATURE

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$
- Low Gate Charge

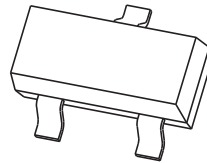
Application

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

MARKING:

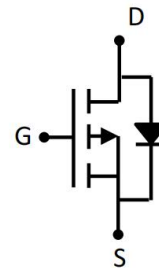


SOT-23



1. GATE
2. SOURCE
3. DRAIN

Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ^{1,2}	I_D	-1.0	A
Pulsed Drain Current	I_{DM}	-4.0	A
Power Dissipation ¹	P_D	0.77	W
Thermal Resistance from Junction to Ambient ^{1,2}	$R_{\theta JA}$	162	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}C$

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
OFF CHARACTERISTICS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-100			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -100V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
ON CHARACTERISTICS³						
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	1.5	2.2	3.0	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -1.0A		580	800	mΩ
		V _{GS} = -4.5V, I _D = -0.5A		650	1000	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	V _{DS} = -40V, V _{GS} = -10V, f = 1MHz		388		pF
Output Capacitance	C _{oss}			19		
Reverse Transfer Capacitance	C _{rss}			15		
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q _g	V _{DS} = -10V, V _{GS} = -10V, I _D = -1A		3.2		nC
Gate-Source Charge	Q _{gs}			0.5		
Gate-Drain Charge	Q _{gd}			1.1		
Turn-on delay time	t _{d(on)}	V _{DD} = -10V, V _G = -10V, I _D = -1A R _G = 2.5Ω		10		nS
Turn-on rise time	t _r			32		
Turn-off delay time	t _{d(off)}			28		
Turn-off fall time	t _f			9		
SOURCE-DRAIN DIODE CHARACTERISTICS						
Diode forward current	I _S	T _A = 25°C			-1	A
Diode pulsed forward current	I _{SM}				-4	A
Diode Forward voltage	V _{DS}	V _{GS} = 0V, I _S = -1A			-1.2	V

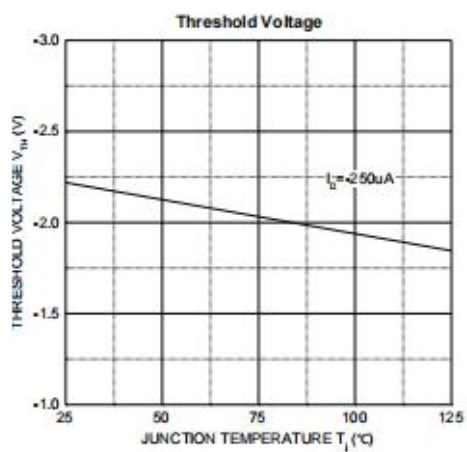
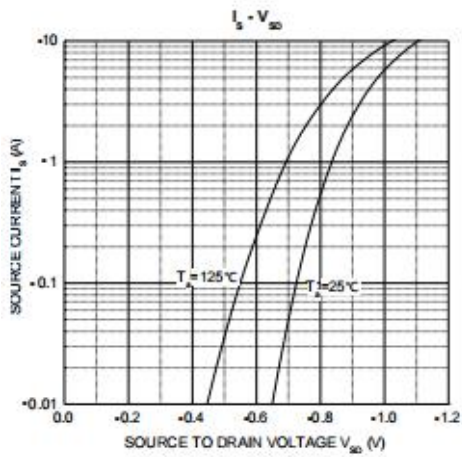
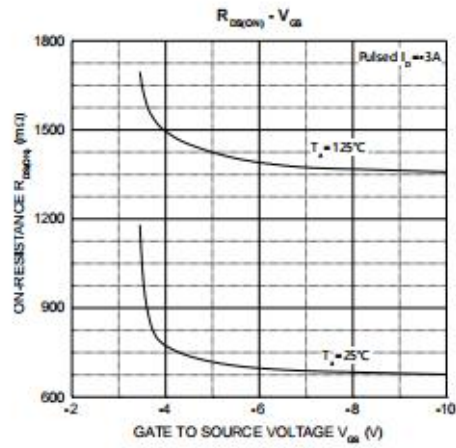
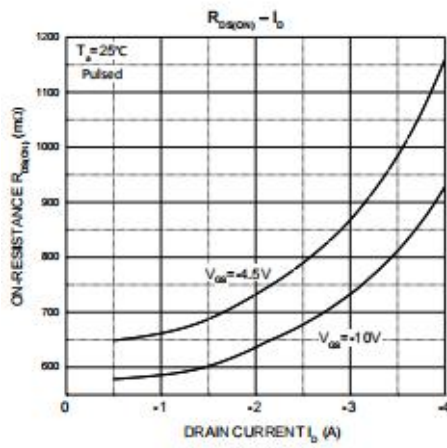
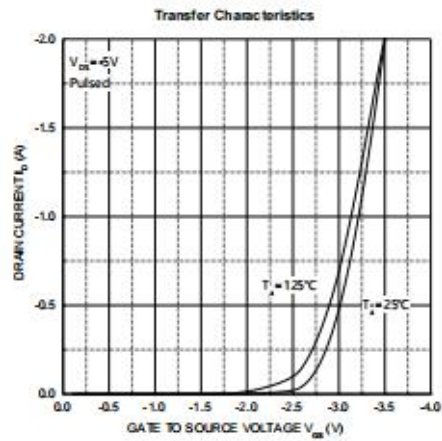
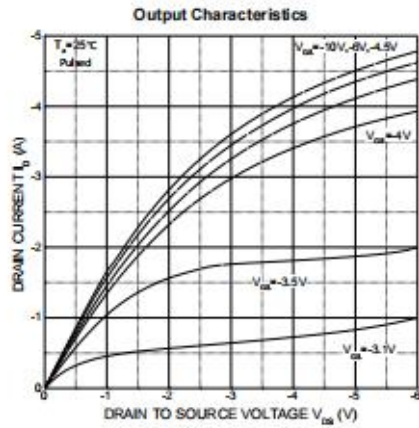
Notes :

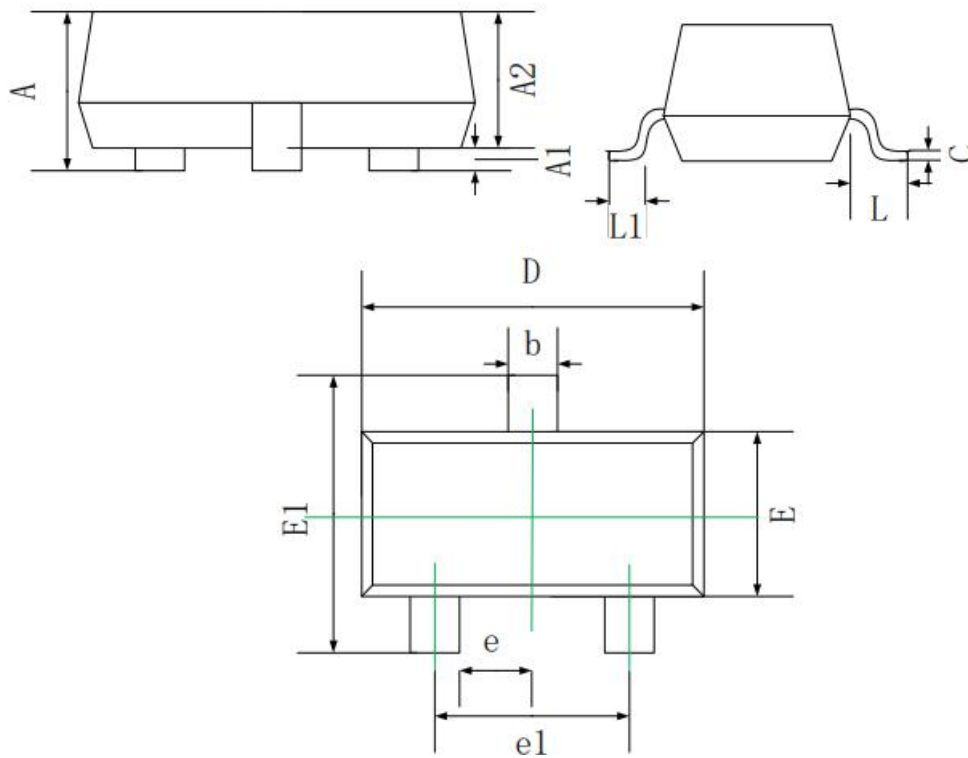
1. R_{θ JA} is measured with the device mounted on 1 in2 FR4 board with 1oz. single side copper, in a still air environment with T_A = 25° C.

2. R_{θ JA} is measured in the steady state

3. Pulse test : Pulse width ≤ 380 μ s, duty cycle ≤ 2%.

Typical Electrical and Thermal Characteristics





Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50