

PW3434

30V N-Channel MOSFET

5.0A 30V; $R_{DS(ON)typ}=30m\Omega@10V$, $R_{DS(ON)typ}=32m\Omega@4.5V$,
 $R_{DS(ON)typ}=38m\Omega@2.5V$

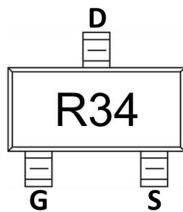
FEATURE

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- ESD Protected

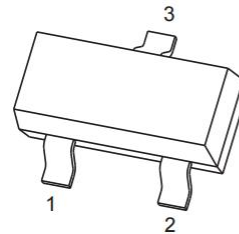
Application

- Load Switch
- DC/DC Converter

MARKING:

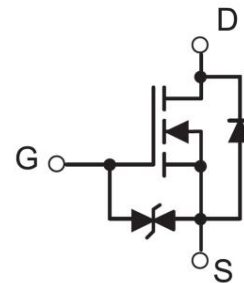


SOT-23



1. GATE
2. SOURCE
3. DRAIN

Schematic diagram



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

Parameter	Symbol	Value	Unit
Drain - Source Voltage	V_{DS}	30	V
Gate - Source Voltage	V_{GS}	± 10	V
Continuous Drain Current ^{1,5}	I_D	5	A
Pulsed Drain Current ²	I_{DM}	20	A
Power Dissipation ^{4,5}	P_D	0.93	W
Thermal Resistance from Junction to Ambient ⁵	$R_{\theta JA}$	134	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

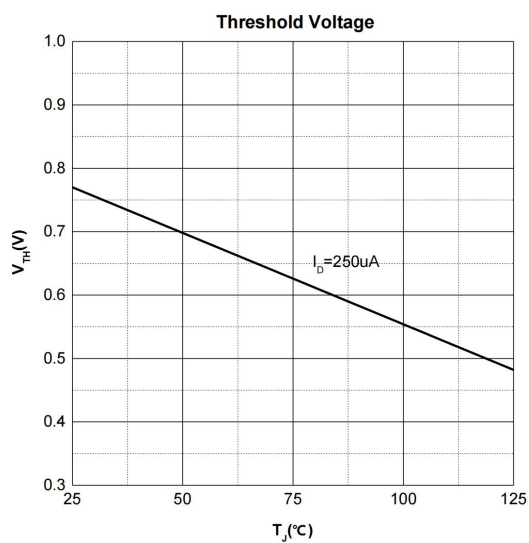
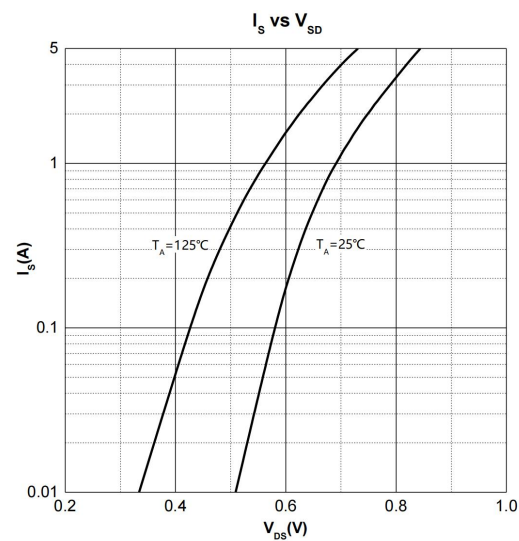
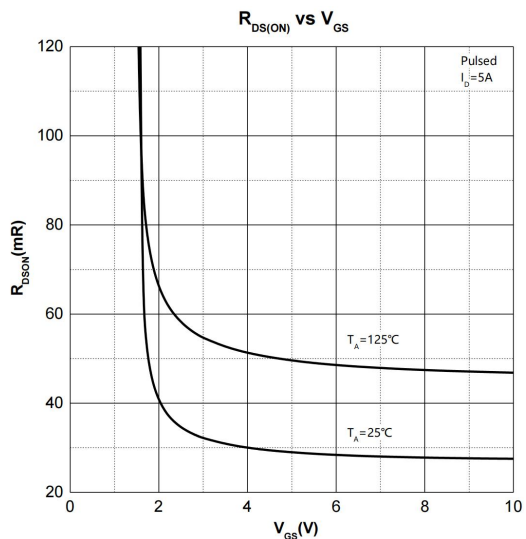
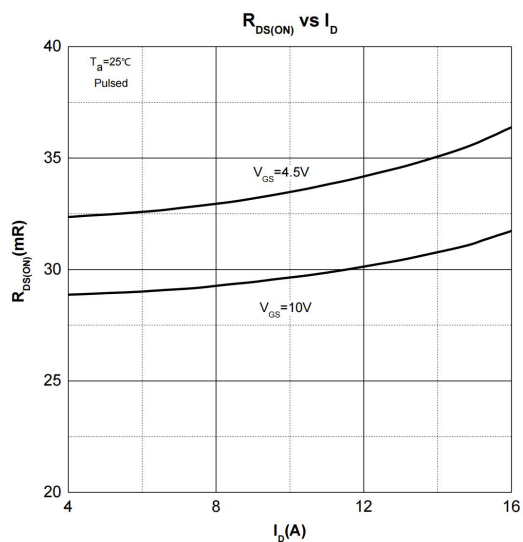
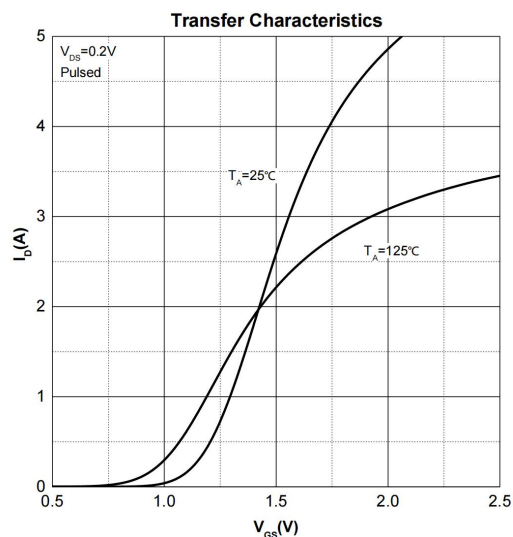
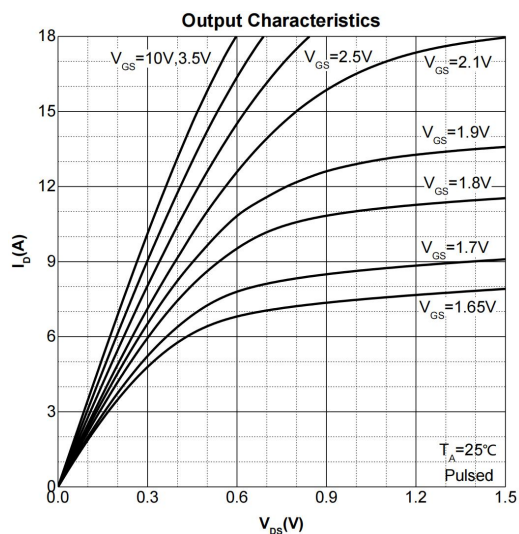
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
OFF CHARACTERISTICS						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30V, V _{GS} = 0V			1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±10	μA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.6	0.8	1.0	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 5A		30	42	mΩ
		V _{GS} = 4.5V, I _D = 5A		32	44	
		V _{GS} = 2.5V, I _D = 4A		38	58	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	V _{DS} = 15V, V _{GS} = 0V, f = 0.1MHz		249		pF
Output Capacitance	C _{oss}			54		
Reverse Transfer Capacitance	C _{rss}			16		
Gate Resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 0.1MHz		3034		Ω
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q _g	V _{DS} = 15V, V _{GS} = 10V, I _D = 5A		15.4		nC
Gate-source Charge	Q _{gs}			0.5		
Gate-drain Charge	Q _{gd}			2.2		
Turn-on Delay Time	t _{d(on)}	V _{DD} = 15V, V _{GS} = 10V, R _L = 3.75Ω, R _G = 3Ω		4		ns
Turn-on Rise Time	t _r			5.5		
Turn-off Delay Time	t _{d(off)}			20		
Turn-off Fall Time	t _f			3.5		
SOURCE-DRAIN DIODE CHARACTERISTICS						
Diode Forward Voltage ³	V _{SD}	V _{GS} = 0V, I _S = 1.0A			1.2	V

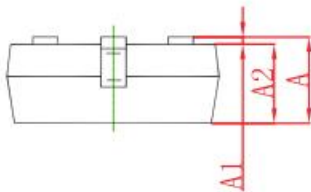
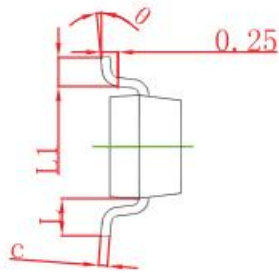
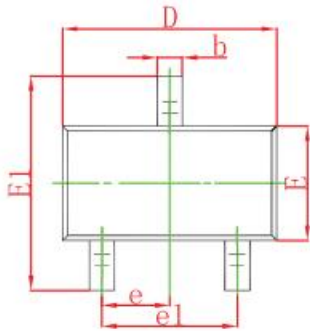
Notes:

- 1.The maximum current rating is limited by package.
- 2.Pulse Test : Pulse Width ≤ 10μs, duty cycle ≤ 1%.
- 3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.
- 4.The power dissipation P_D is limited by T_{J(MAX)} = 150°C.
- 5.Device mounted on 1in2 FR-4 board with 2oz. Copper, in a still air environment with TA =25°C.

Typical Electrical and Thermal Characteristics



SOT-23 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°