

20V,5A N-Channel Mosfet

FEATURES

$R_{DS(ON)} \leq 25m \Omega @V_{GS}=4.5V$

$R_{DS(ON)} \leq 38m \Omega @V_{GS}=2.5V$

APPLICATIONS

PWM Applications

Load Switch

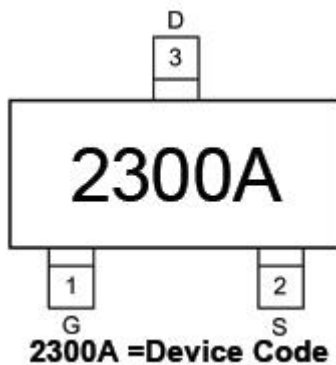
Power Management

PACKAGE

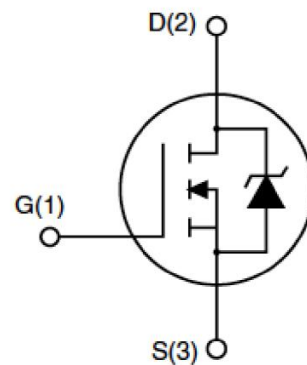


SOT-23

MARKING



N-CHANNEL MOSFET



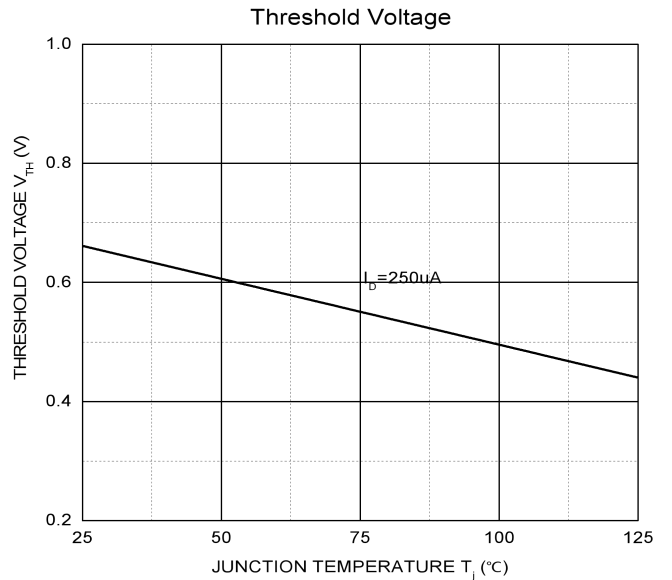
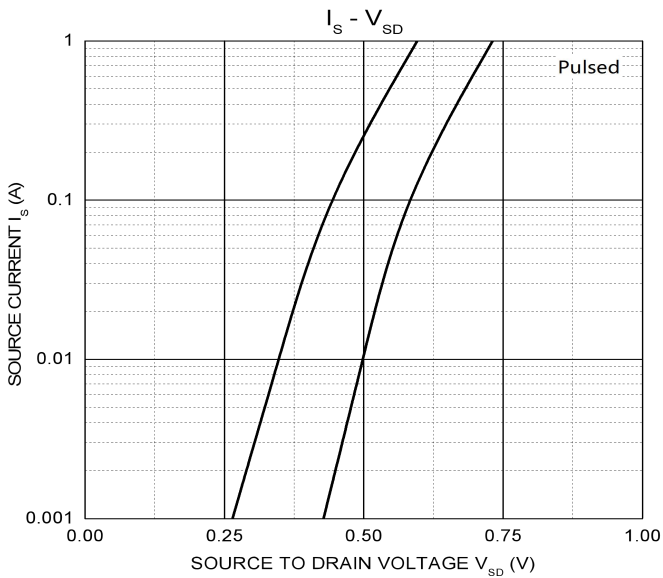
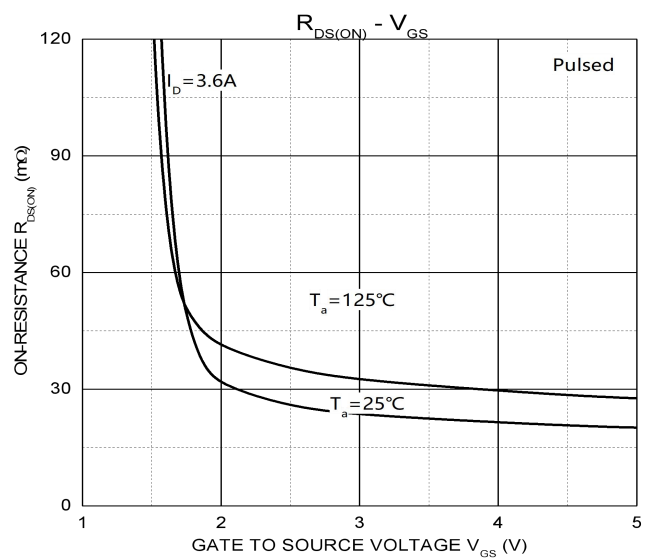
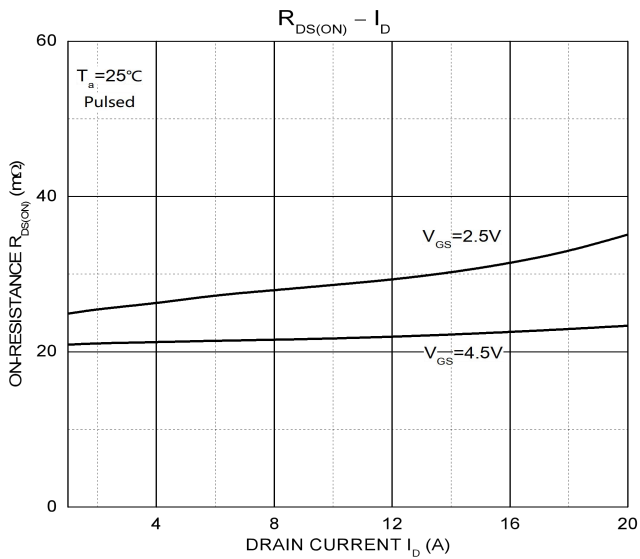
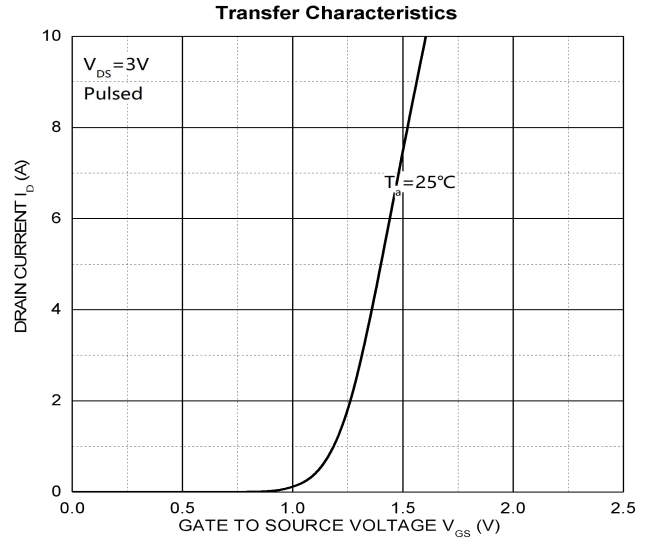
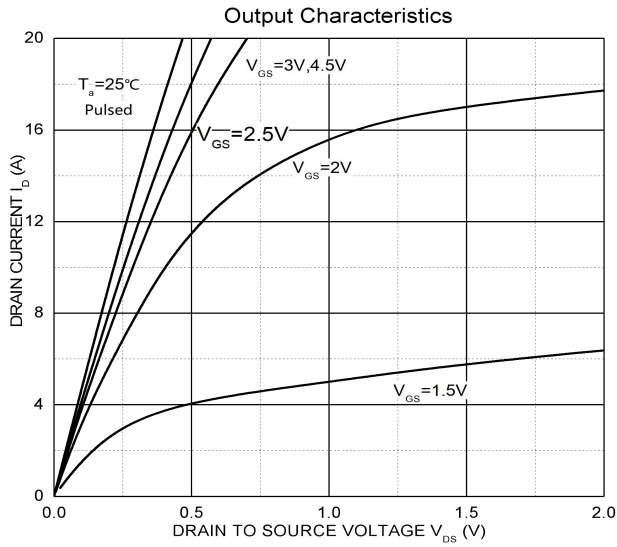
Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	5	A
Plused Drain Current	I_{DM}	25	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$

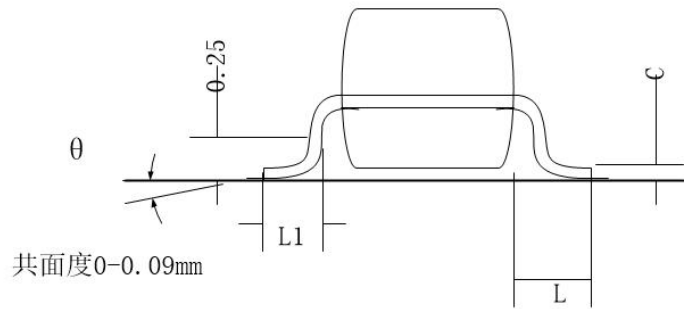
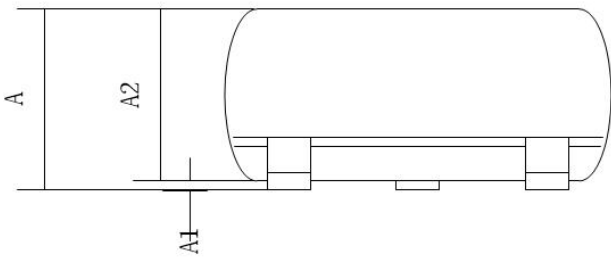
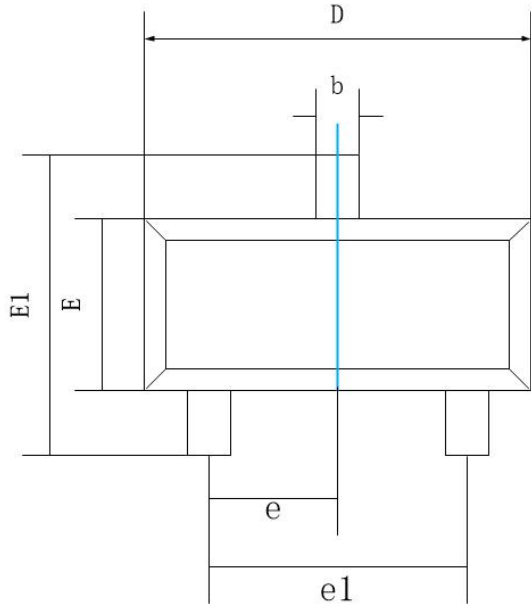
Electrical characteristics ($T_A=25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 0.1	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.66	1.2	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 4.5A$		20	25	m Ω
		$V_{GS} = 2.5V, I_D = 3.5A$		25	38	
Diode forward voltage	V_{SD}	$I_S = 1.7A, V_{GS} = 0V$			1.2	V
Dynamic characteristics						
Total gate charge	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 4A$		11		nC
Gate-source charge	Q_{gs}			2.3		
Gate-drain charge	Q_{gd}			2.5		
Input Capacitance	C_{iss}	$V_{DS} = 8V, V_{GS} = 0V, f = 1MHz$		800		pF
Output Capacitance	C_{oss}			155		
Reverse Transfer Capacitance	C_{rss}			125		
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 10V, V_{GS} = 4V, I_D = 1A$ $R_G = 10\Omega$		18		ns
Turn-on rise time	t_r			5		
Turn-off delay time	$t_{d(off)}$			43		
Turn-off fall time	t_f			20		

Typical Characteristics



SOT-23 Package Information



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
θ	0°	8°