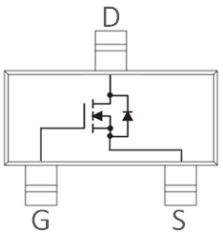
◆ Features & Applications

TrenchFET Power MOSFET.
Super high dense cell design.
Battery management,High speed switch,low power DC to DC converter.



◆ Marking



◆ Absolute Maximum Ratings(Ta=25℃)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	±10	V
I_D	Continuous Drain Current	2.3	A
I_S	Continuous Source-Drain Current(Diode Conduction)	0.6	A
P_D	Power Dissipation	400	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient (t≤5s)	300	℃/W
T_J, T_{stg}	Operation Junction And Storage Temperature Range	-55～+150	℃

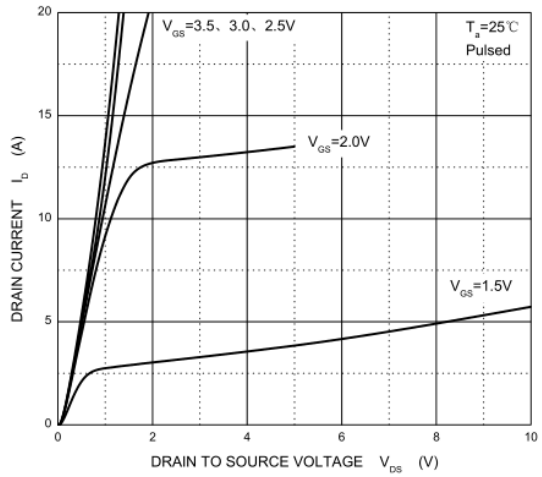
◆ Electrical Characteristics (Ta=25℃ unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
Static						
$V_{(BR)DSS}$	Drain-source breakdown voltage	V_{GS}=0, I_D=10μA	20			V
$V_{GS(th)}$	Gate-threshold voltage	V_{DS}= V_{GS}, I_D=250μA	0.6		1.1	V
I_{GSS}	Collector cut-off current	V_{DS}=0, V_{GS}=±10V			100	nA
I_{DSS}	Collector cut-off current	V_{DS}=20V, V_{GS}=0V			1	μA
$R_{DS(on)}$	Drain-source on-resistance[a]	V_{GS}=4.5V, I_D=2A		50	60	mΩ
		V_{GS}=2.5V, I_D=1A		65	85	mΩ
g_{FS}	Forward transconductance[a]	V_{DS}=5V, I_D=2.5A		10		S
V_{SD}	Diode forward voltage	I_S=1A,V_{GS}=0V			1.2	V
Dynamic						
Q_g	Total gate charge	V_{DS}=10V, V_{GS}=4.5V, I_D=2.5A		5.0	10	nC
Q_{gs}	Gate-source charge			0.65		
Q_{gd}	Gate-drain charge			1.5		
C_{iss}	Input capacitance[b]	V_{DS}=10V, V_{GS}=0V, f=1MHz		340		pF
C_{oss}	Output capacitance[b]			120		
C_{rss}	Reverse transfer capacitance[b]			80		
Switching[b]						
$t_{d(on)}$	Turn-on delay time	V_{DS}=10V, RL=5.5Ω, I_D≈2.5A, V_{GEN}=4.5V, Rg=6Ω		12		nS
t_r	Rise time			36		
$t_{d(off)}$	Turn-off delay time			34		
t_f	Fall time			10		

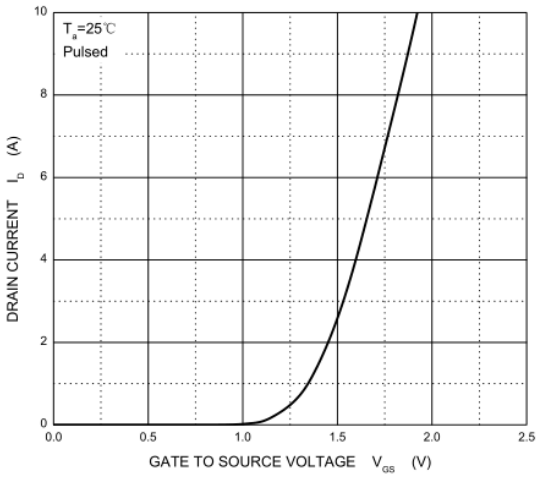
Notes :
a. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.
b. These parameters have no way to verify.

◆ Typical Characteristics

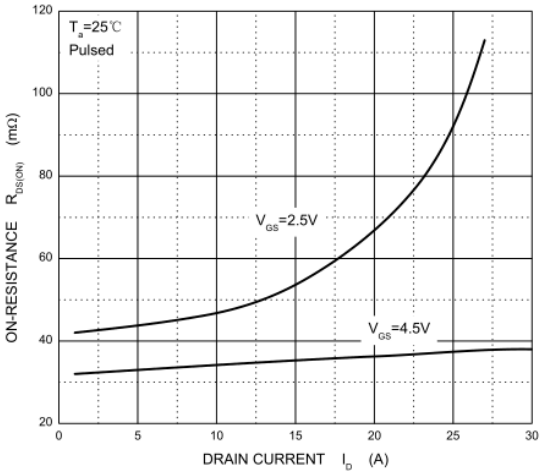
Output Characteristics



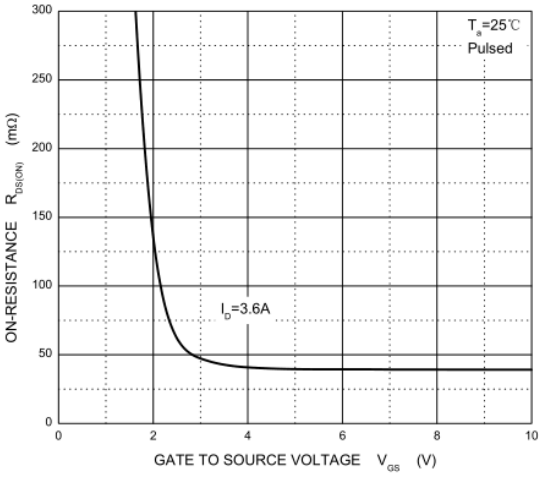
Transfer Characteristics



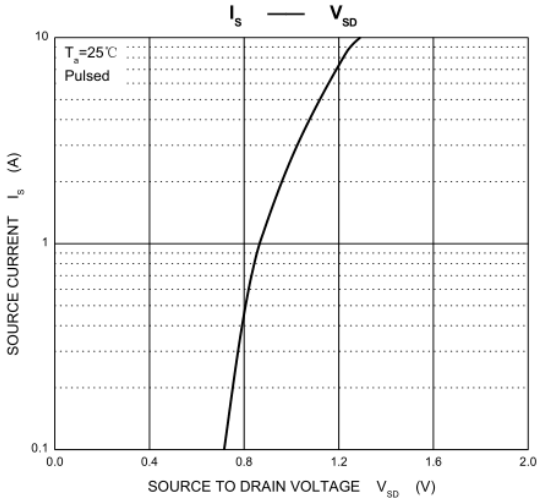
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



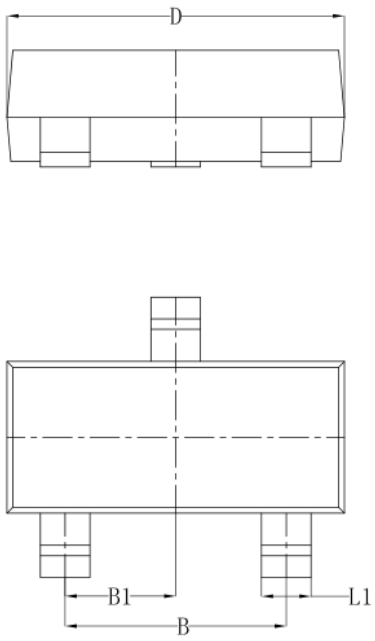
I_S — V_{SD}



◆ Packaging SPEC.

Units				
Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box
3,000	15	45,000	4	180,000
Reel	Dimension (unit：mm^3)			
	Inner Box		Outer Box	
7″ × 8	190×190×190		400×400×210	

◆ SOT-23 Package Outline Dimensions



Symbol	Dim in mm		
	Min	Nom	Max
A	0.900	1.000	1.100
A1	0.000	0.050	0.100
B	1.800	1.900	2.000
B1	0.950 TYP		
C	0.100	0.110	0.120
D	2.800	2.900	3.000
E	1.250	1.300	1.350
E1	2.250	2.400	2.550
L1	0.350	0.400	0.500
L2	0.200	0.350	0.450
P	0.550	0.575	0.600