

◆ **Features & Applications**

TrenchFET Power MOSFET.

Super high dense cell design.

Battery management, High speed switch, low power DC to DC converter.

◆ **Absolute Maximum Ratings(Ta=25°C)**

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	°C/W
$T_J, T_{stg}$	Operation Junction And Storage Temperature Range	-55~+150	°C

◆ **Electrical Characteristics (Ta=25°C unless otherwise specified)**

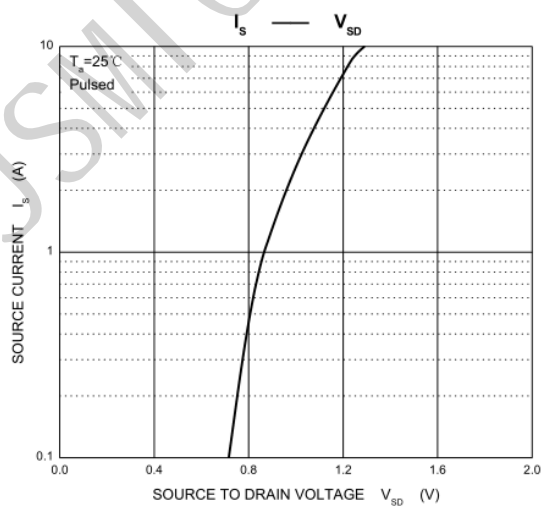
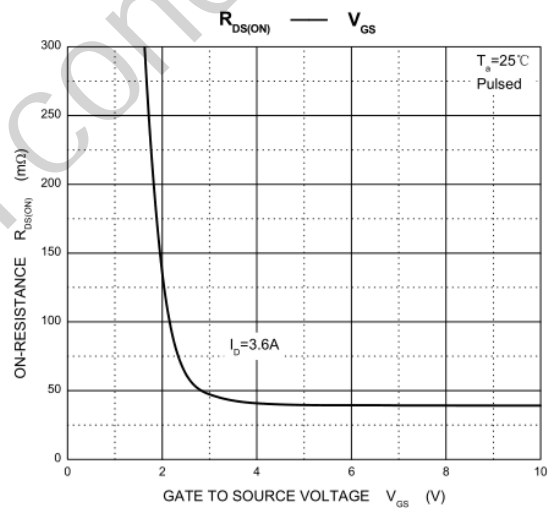
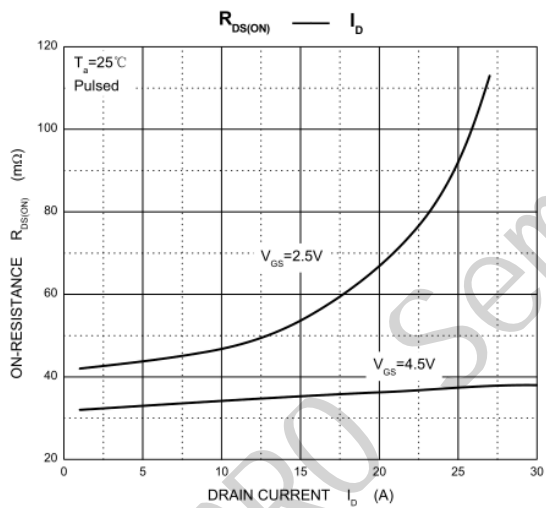
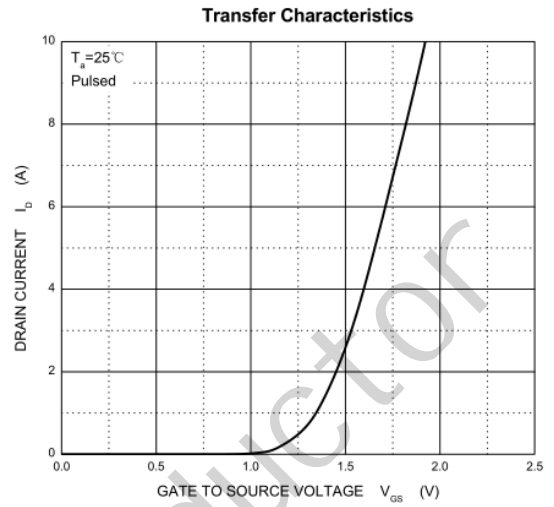
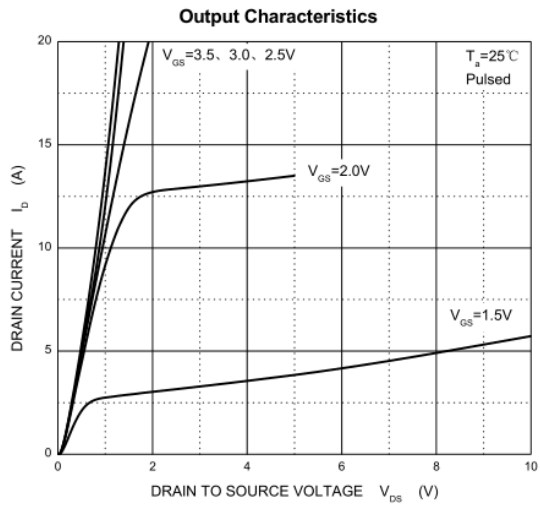
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
<b>Static</b>						
$V_{(BR)DSS}$	Drain-source breakdown voltage	$V_{GS}=0, I_D=10\mu A$	20			V
$V_{GS(th)}$	Gate-threshold voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	0.6		1.1	V
$I_{GSS}$	Collector cut-off current	$V_{DS}=0, V_{GS}=\pm 10V$			100	nA
$I_{DSS}$	Collector cut-off current	$V_{DS}=20V, V_{GS}=0V$			1	μA
$R_{DS(on)}$	Drain-source on-resistance <sup>a</sup>	$V_{GS}=4.5V, I_D=2A$		50	60	mΩ
		$V_{GS}=2.5V, I_D=1A$		65	85	mΩ
$g_{FS}$	Forward transconductance <sup>a</sup>	$V_{DS}=5V, I_D=2.5A$		10		S
$V_{SD}$	Diode forward voltage	$I_S=1A, V_{GS}=0V$			1.2	V
<b>Dynamic</b>						
$Q_g$	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 <sup>b</sup>	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		340		pF
$C_{oss}$	Output capacitance <sup>b</sup>			120		
$C_{rss}$	Reverse transfer capacitance <sup>b</sup>			80		
<b>Switching<sup>b</sup></b>						
$t_{d(on)}$	Turn-on delay time	$V_{DS}=10V, R_L=5.5\Omega, I_D\approx 2.5A, V_{GEN}=4.5V, R_g=6\Omega$		12		nS
$t_r$	Rise time			36		
$t_{d(off)}$	Turn-off delay time			34		
$t_f$	Fall time			10		

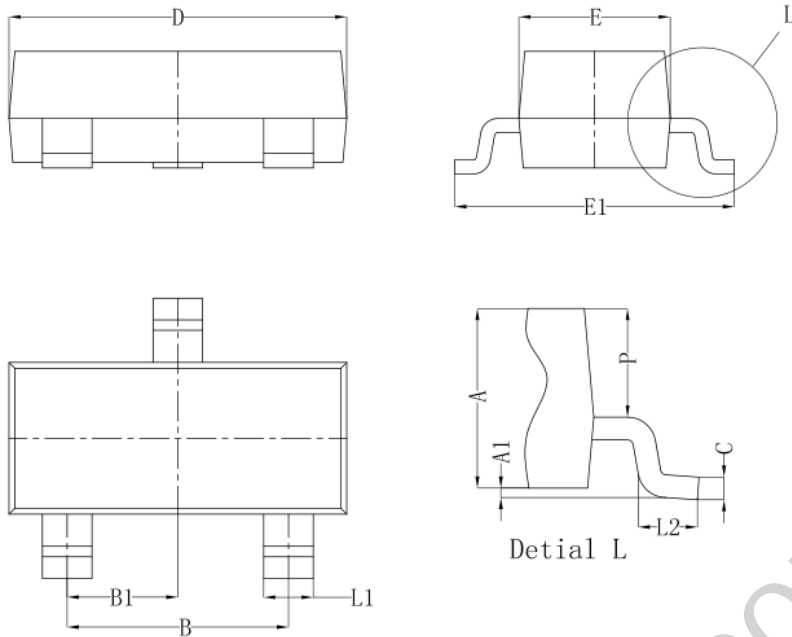
Notes :

a. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.

b. These parameters have no way to verify.

## ◆ Typical Characteristics



**◆ 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

**◆ 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 <sup>3</sup> )			
	Inner Box		Outer Box	
7" × 8	190×190×190		400×400×210	

**◆ Marking**
