

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	37mΩ@10V	3.3A
	57mΩ@4.5V	

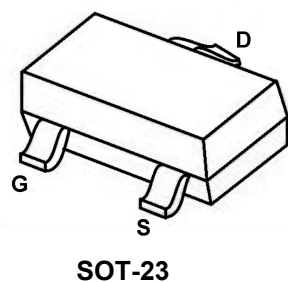
Feature

- TrenchFET Power MOSFET

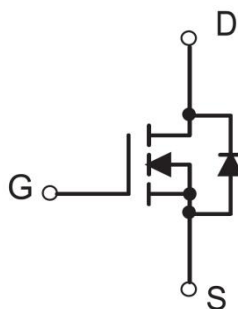
Application

- DC/DC Converter
- Load Switch for Portable Devices

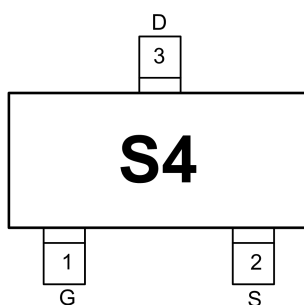
Package



Circuit diagram



Marking



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	3.3	A
Pulsed Drain Current	I_{DM}	15	
Continuous Source-Drain Diode Current	I_S	0.9	
Maximum Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient($t \leq 5s$)	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	

Electrical characteristics (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.6	2.2	V
Drain-source on-resistance ¹⁾	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 3.2A$		37	60	m Ω
		$V_{GS} = 4.5V, I_D = 2.8A$		57	75	
Forward transconductance ¹⁾	g_{FS}	$V_{DS} = 4.5V, I_D = 2.5A$	2.5			S
Dynamic characteristics²⁾						
Total gate charge	Q_g	$V_{DS} = 15V, V_{GS} = 10V, I_D = 3.4A$		4.5	6.7	nC
		$V_{DS} = 15V, V_{GS} = 4.5V, I_D = 3.4A$		2.1	3.2	
Gate-source charge	Q_{gs}			0.85		
Gate-drain charge	Q_{gd}			0.65		
Gate resistance	R_g	$f = 1.0MHz$	0.8	4.4	8.8	Ω
Input Capacitance	C_{iss}	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$		235		pF
Output Capacitance	C_{oss}			45		
Reverse Transfer Capacitance	C_{rss}			17		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 15V, R_L = 5.6\Omega, I_D \approx 2.7A, V_{GEN} = 4.5V, R_g = 1\Omega$		12	20	ns
Turn-on rise time	t_r			50	75	
Turn-off delay time	$t_{d(off)}$			12	20	
Turn-off fall time	t_f			22	35	
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 15V, R_L = 5.6\Omega, I_D \approx 2.7A, V_{GEN} = 10V, R_g = 1\Omega$		5	10	
Turn-on rise time	t_r			12	20	
Turn-off delay time	$t_{d(off)}$			10	15	
Turn-off fall time	t_f			5	10	



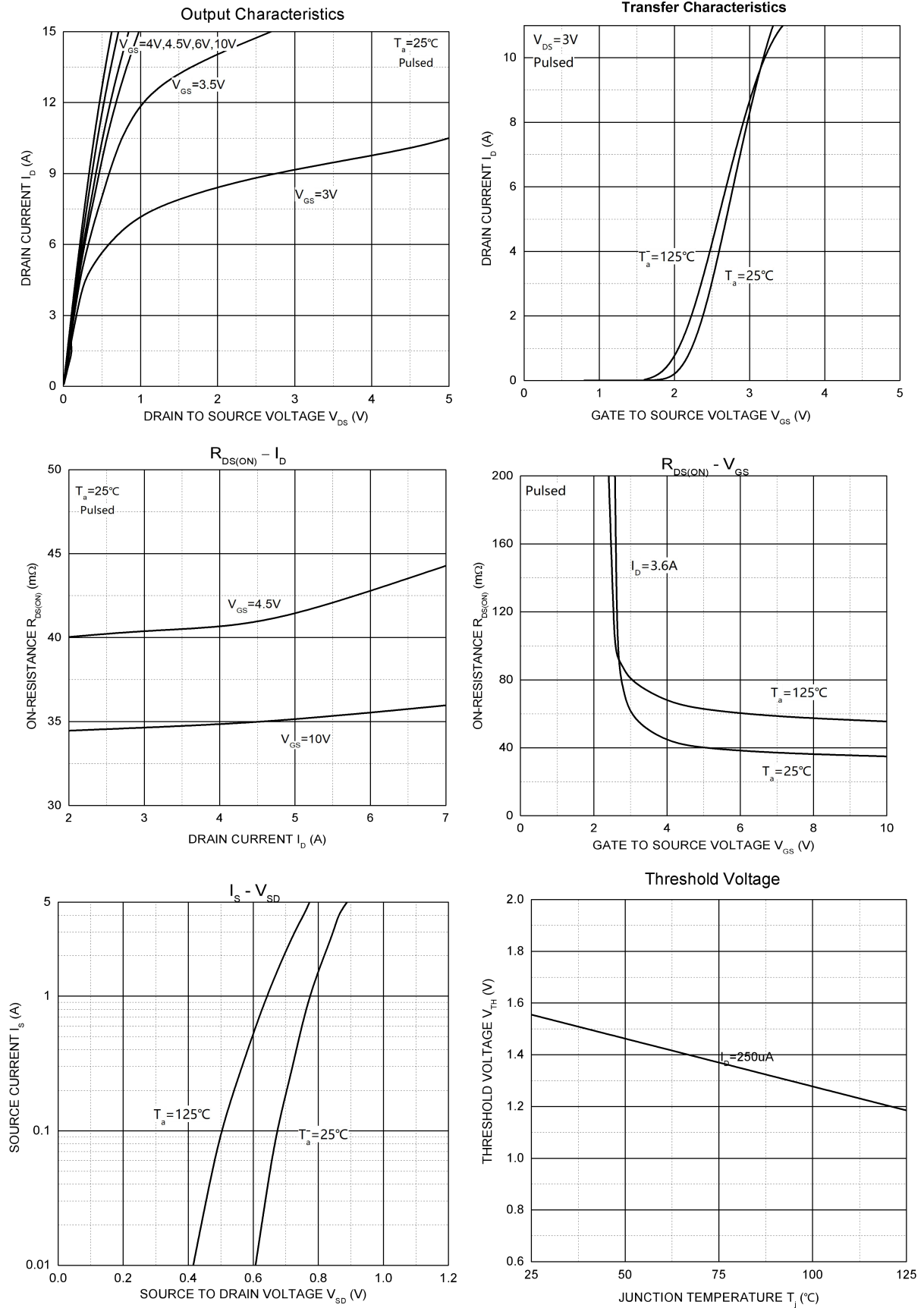
Source-Drain Diode characteristics						
Continuous source-drain diode current	I_S	$T_C=25^{\circ}\text{C}$			1.4	A
Pulse diode forward current	I_{SM}				15	A
Body diode voltage	V_{SD}	$I_S=2.7\text{A}, V_{GS}=0\text{V}$			1.2	V

Notes:

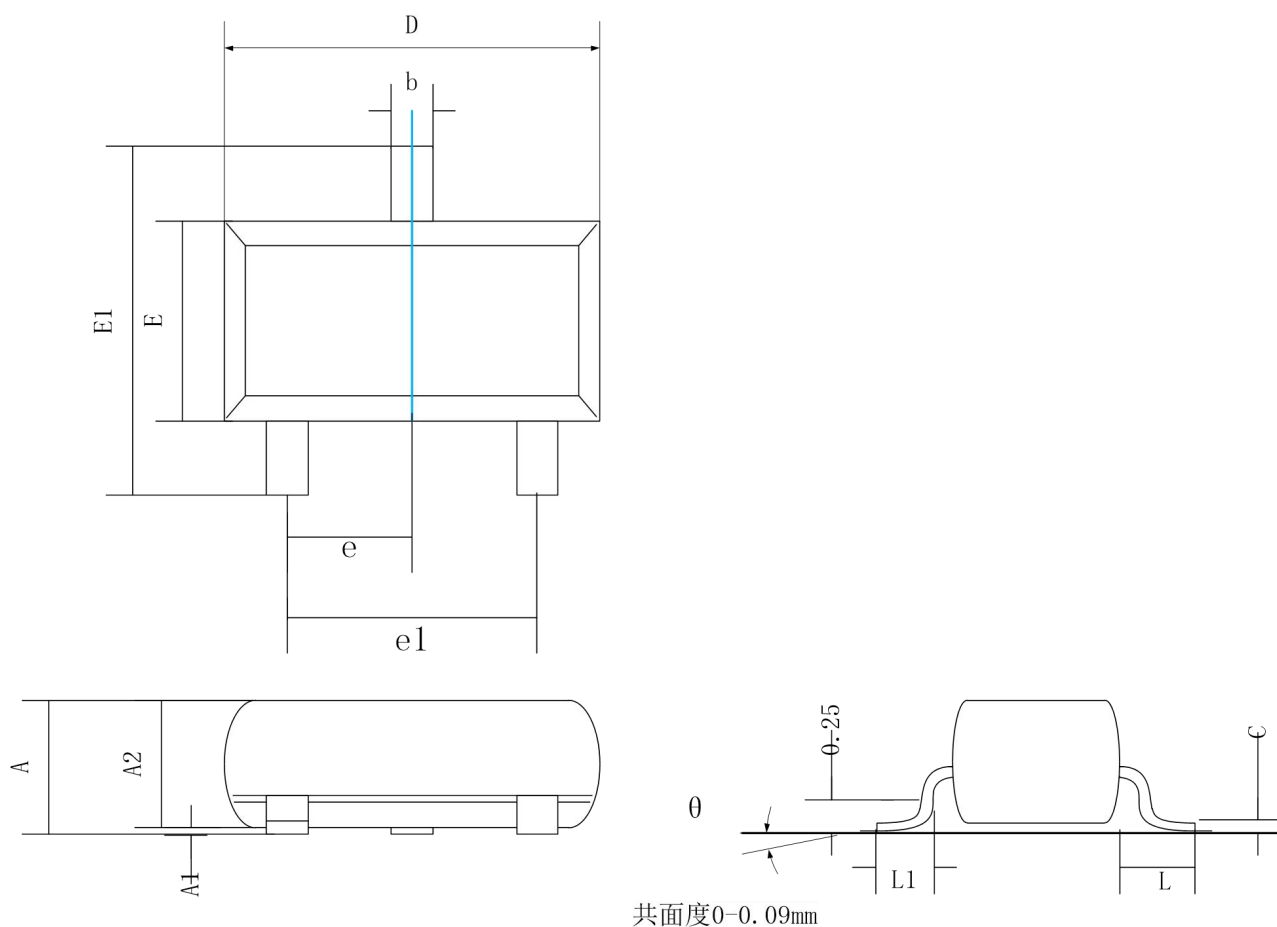
- 1) Pulse Test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.
- 2) Guaranteed by design, not subject to production testing.



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°