

### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
30V	47mΩ@10V	3.16A
	65mΩ@4.5V	

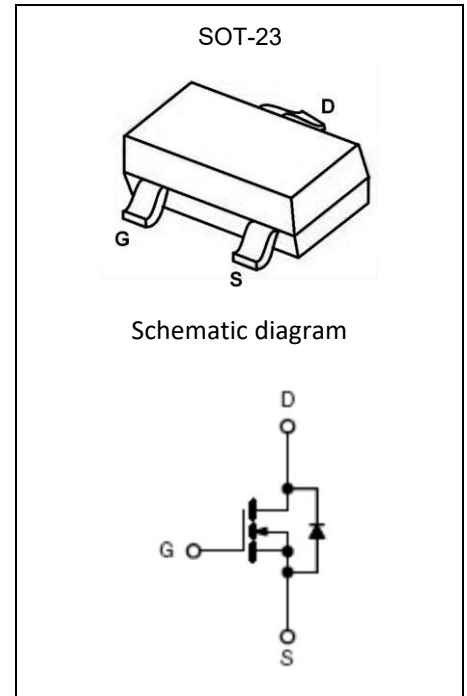
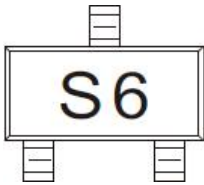
### Feature

- TrenchFET Power MOSFET

### Application

- Load Switch for Portable Devices
- DC/DC Converter

### MARKING:



### 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	$V_{GS}$	±20	
Continuous Drain Current( $T_J=150^{\circ}\text{C}$ )	$I_D$	3.16	A
Pulsed Drain Current	$I_{DM}$	20	
Continuous Source Current(Diode Conduction)	$I_S$	0.62	
Maximum Power Dissipation	$P_D$	0.35	W
Thermal Resistance from Junction to Ambient( $t \leq 5s$ )	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	

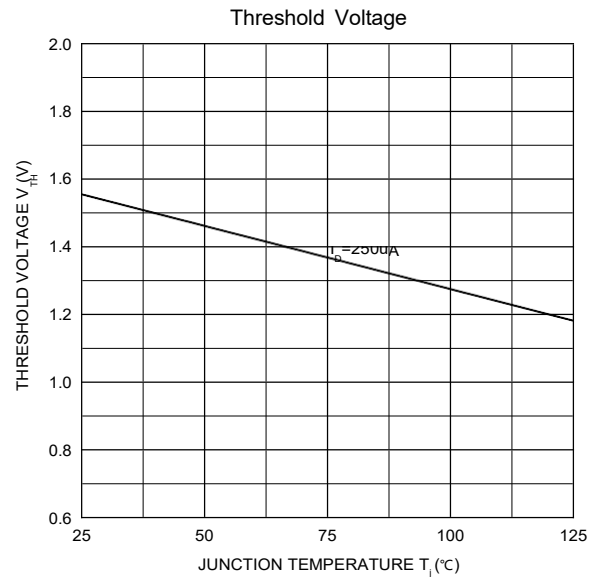
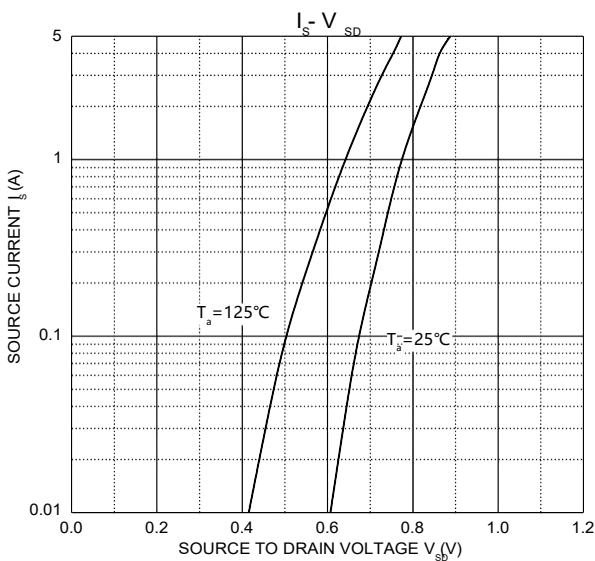
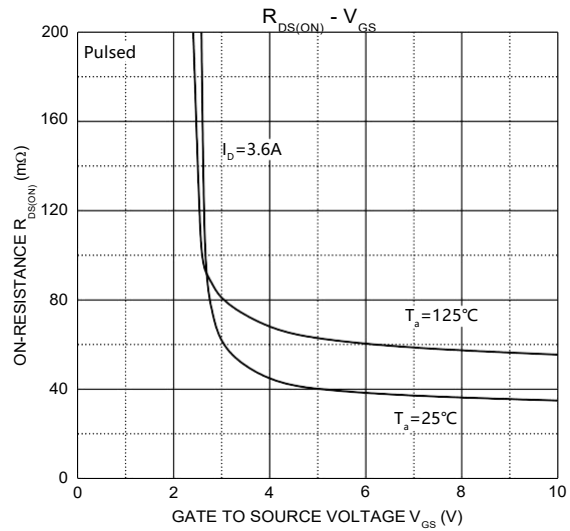
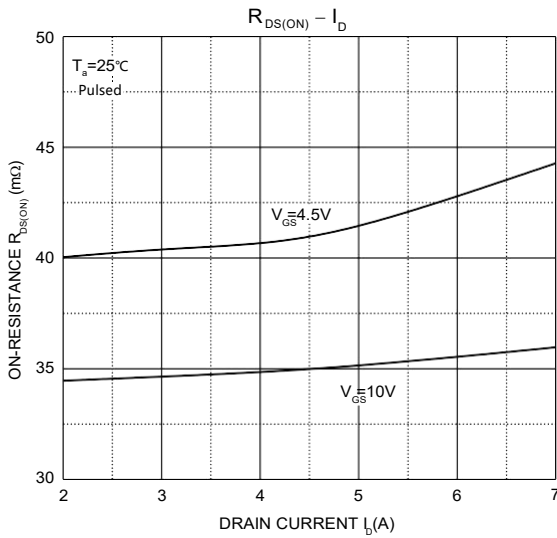
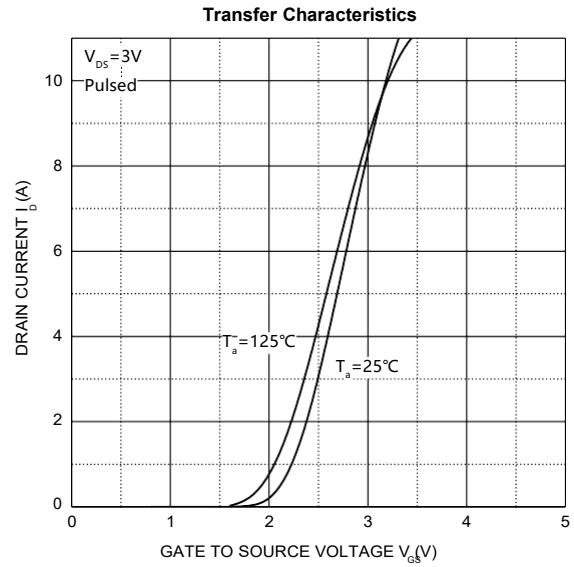
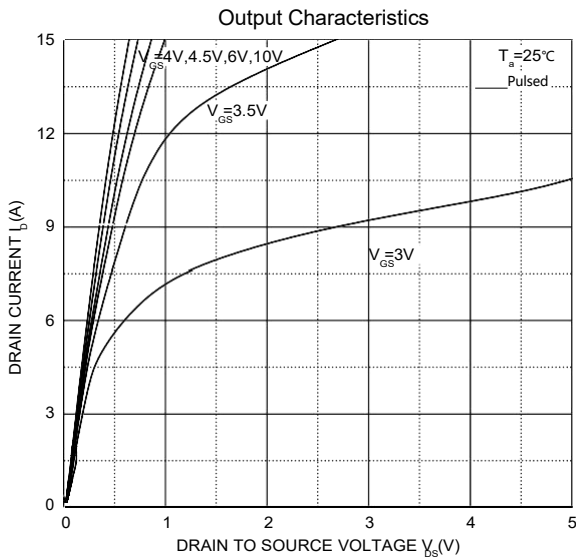
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V			0.5	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	1	1.6	3	V
Drain-source on-resistance <sup>a</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 3.5A		33	47	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 2.8A		43	65	
Forward tranconductance <sup>a</sup>	g <sub>FS</sub>	V <sub>DS</sub> = 4.5V, I <sub>D</sub> = 2.5A		7		S
<b>Dynamic characteristics<sup>b</sup></b>						
gate charge	Q <sub>g</sub>	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 5V, I <sub>D</sub> = 2.5A		3.0	4.5	nC
Total Gate Charge	Q <sub>gt</sub>	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 10V, I <sub>D</sub> = 2.5A		6	9	
Gate-source charge	Q <sub>gs</sub>			1.6		
Gate-drain charge	Q <sub>gd</sub>			0.6		
Gate resistance	R <sub>g</sub>	f = 1.0MHz	2.5	5	7.5	Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0V, f = 1MHz		305		pF
Output Capacitance	C <sub>oss</sub>			65		
Reverse Transfer Capacitance	C <sub>rss</sub>			29		
Turn-on delay time	t <sub>d(on)</sub>	V <sub>DD</sub> = 15V, R <sub>L</sub> = 15Ω, I <sub>D</sub> ≈ 1A, V <sub>GEN</sub> = 10V, R <sub>g</sub> = 6Ω		7	11	ns
Turn-on rise time	t <sub>r</sub>			12	18	
Turn-off delay time	t <sub>d(off)</sub>			14	25	
Turn-off fall time	t <sub>f</sub>			6	10	
<b>Source-Drain Diode characteristics</b>						
Body diode voltage	V <sub>SD</sub>	I <sub>S</sub> = 1.25A, V <sub>GS</sub> = 0V		0.8	1.2	V

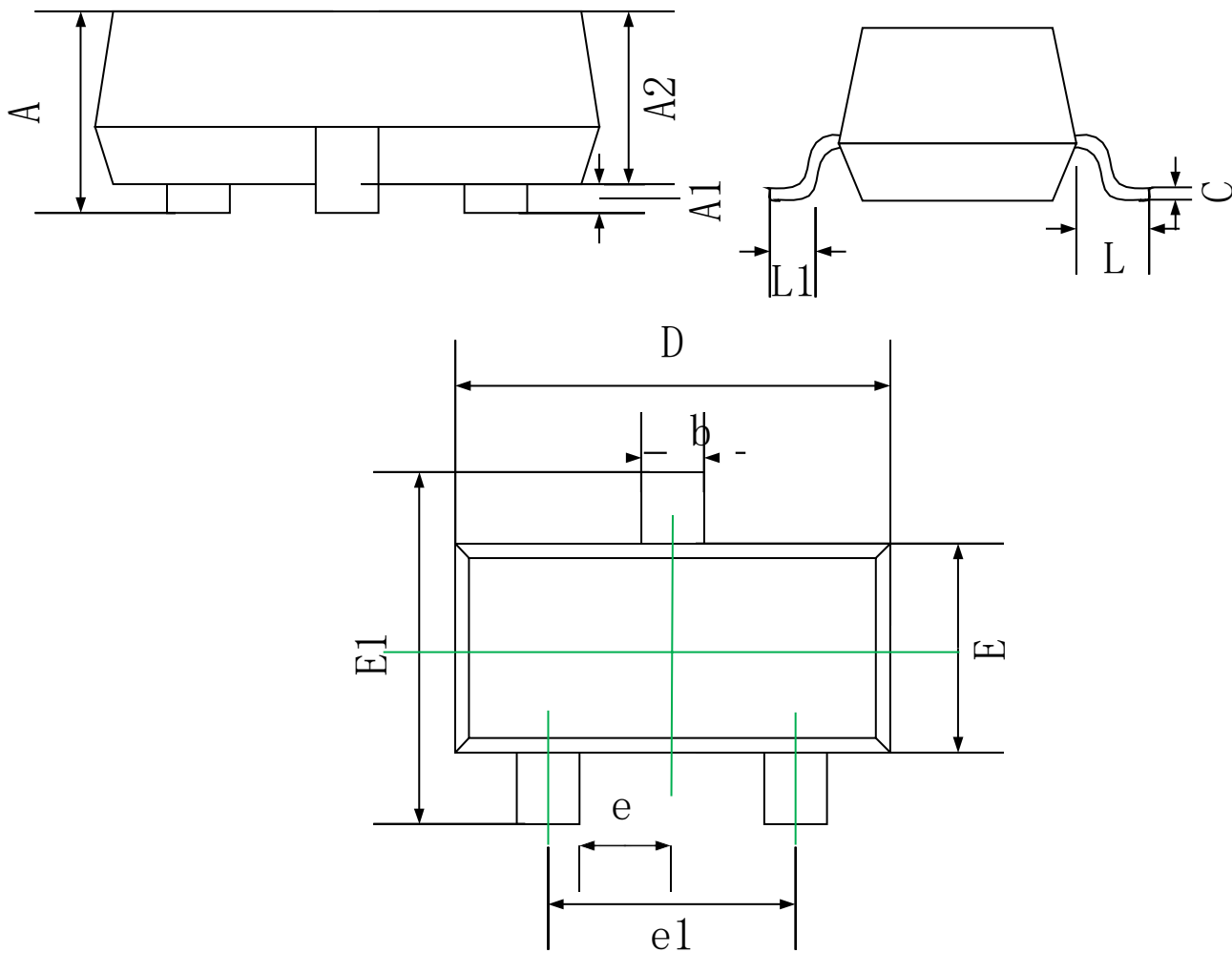
**Notes:**

- a. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.

Typical Characteristics



SOT-23 Package Information

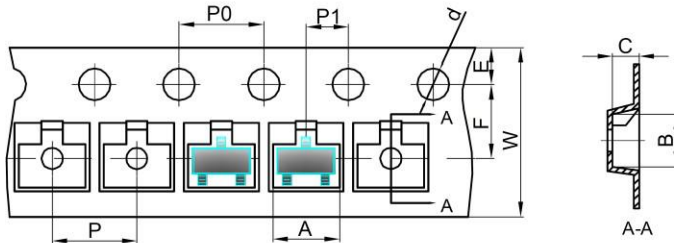


Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50

SOT-23 Tape and Reel

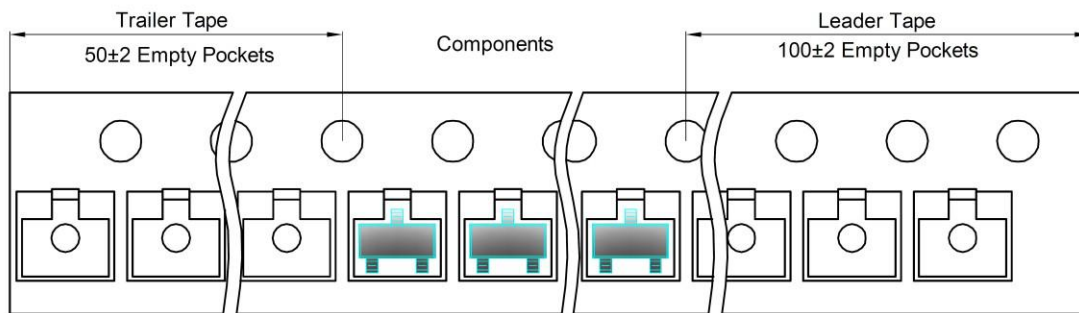
## SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

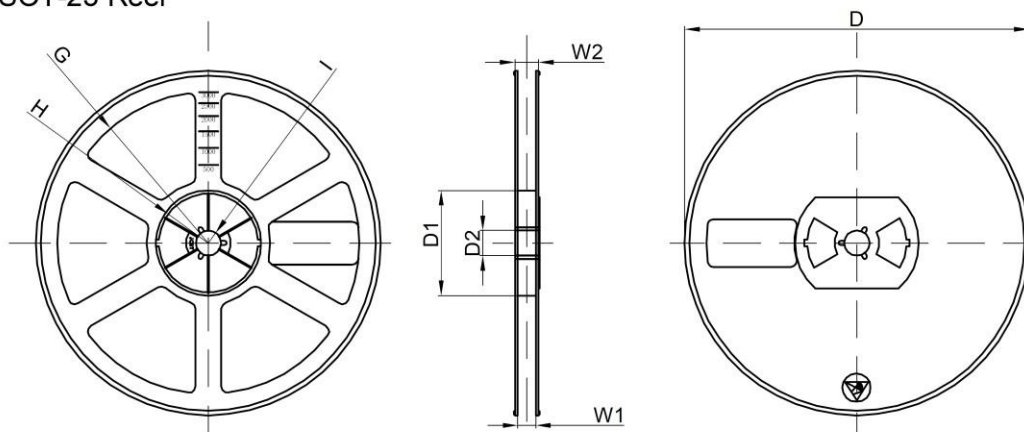


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

## SOT-23 Tape Leader and Trailer



## SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	