

**30V N-Channel MOSFET**
**Product Summary**

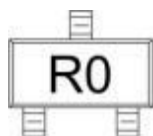
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
30V	35mΩ@10V	5.8A
	40mΩ@4.5V	
	52mΩ@2.5V	

**Feature**

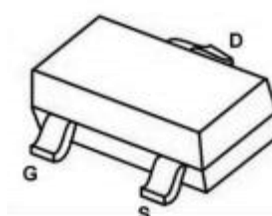
- TrenchFET Power MOSFET
- Excellent  $R_{DS(on)}$  and Low Gate Charge

**Application**

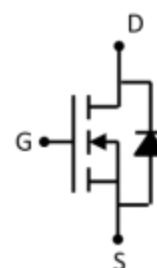
- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

**MARKING:**


SOT-23



Schematic diagram


**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	$V_{GS}$	±12	V
Continuous Drain Current	$I_D$	5.8	A
Pulsed Drain Current <sup>(1)</sup>	$I_{DM}$	30	A
Power Dissipation	$P_D$	0.35	W
Thermal Resistance from Junction to Ambient <sup>(2)</sup>	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Junction Temperature	$T_J$	-55~ +150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}\text{C}$

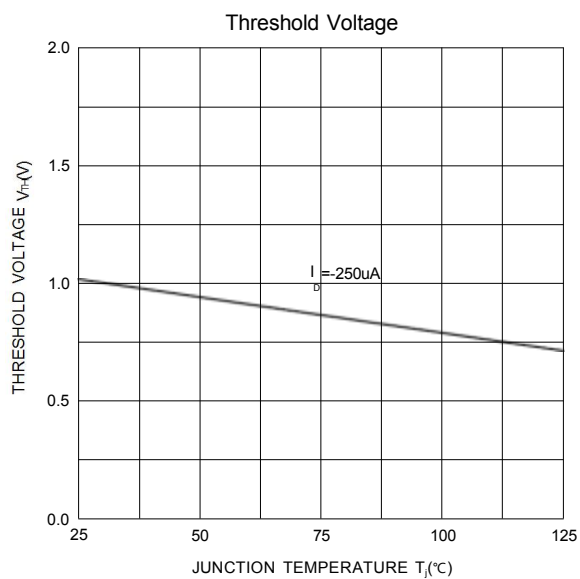
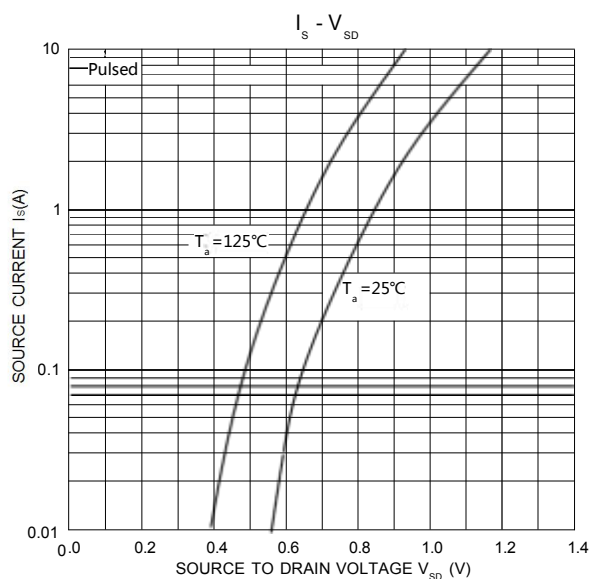
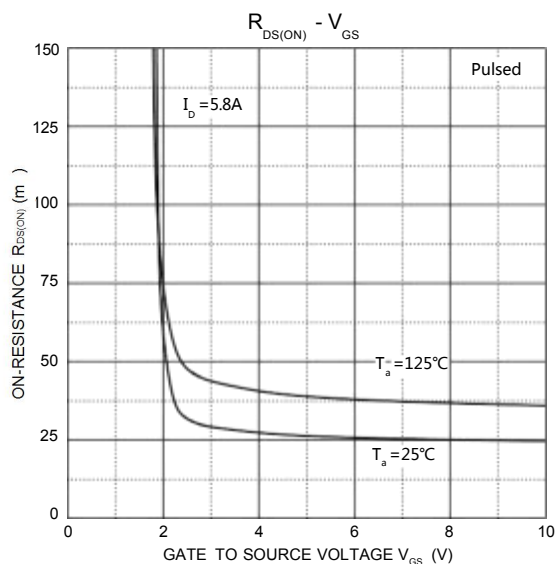
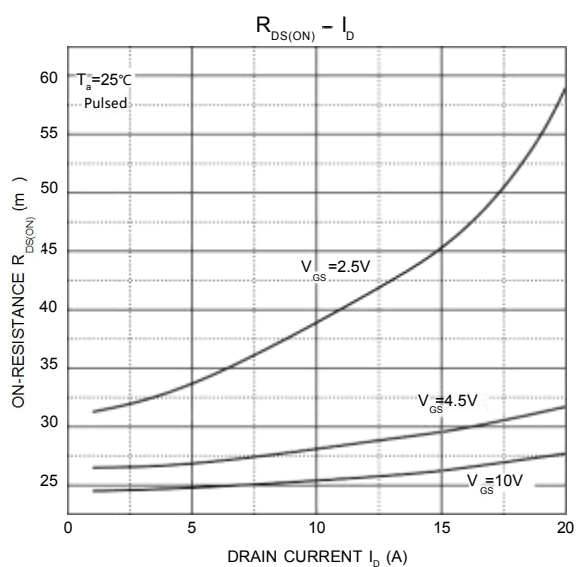
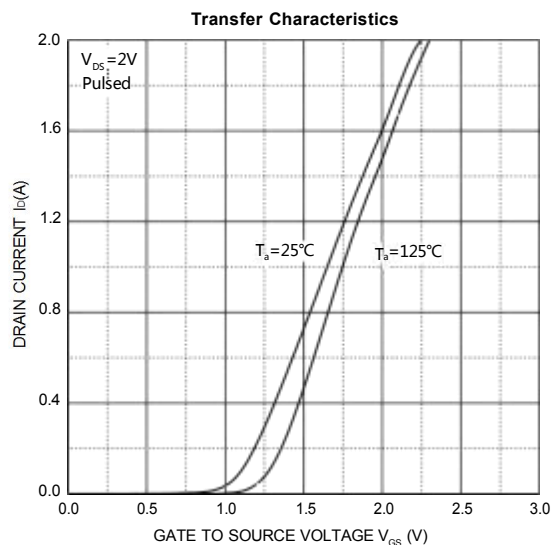
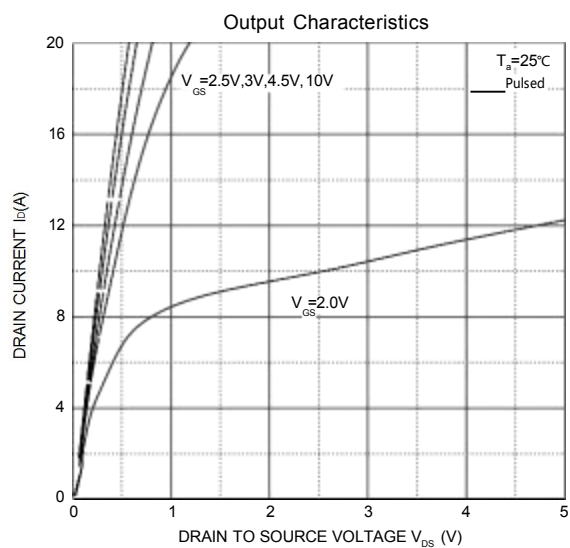
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

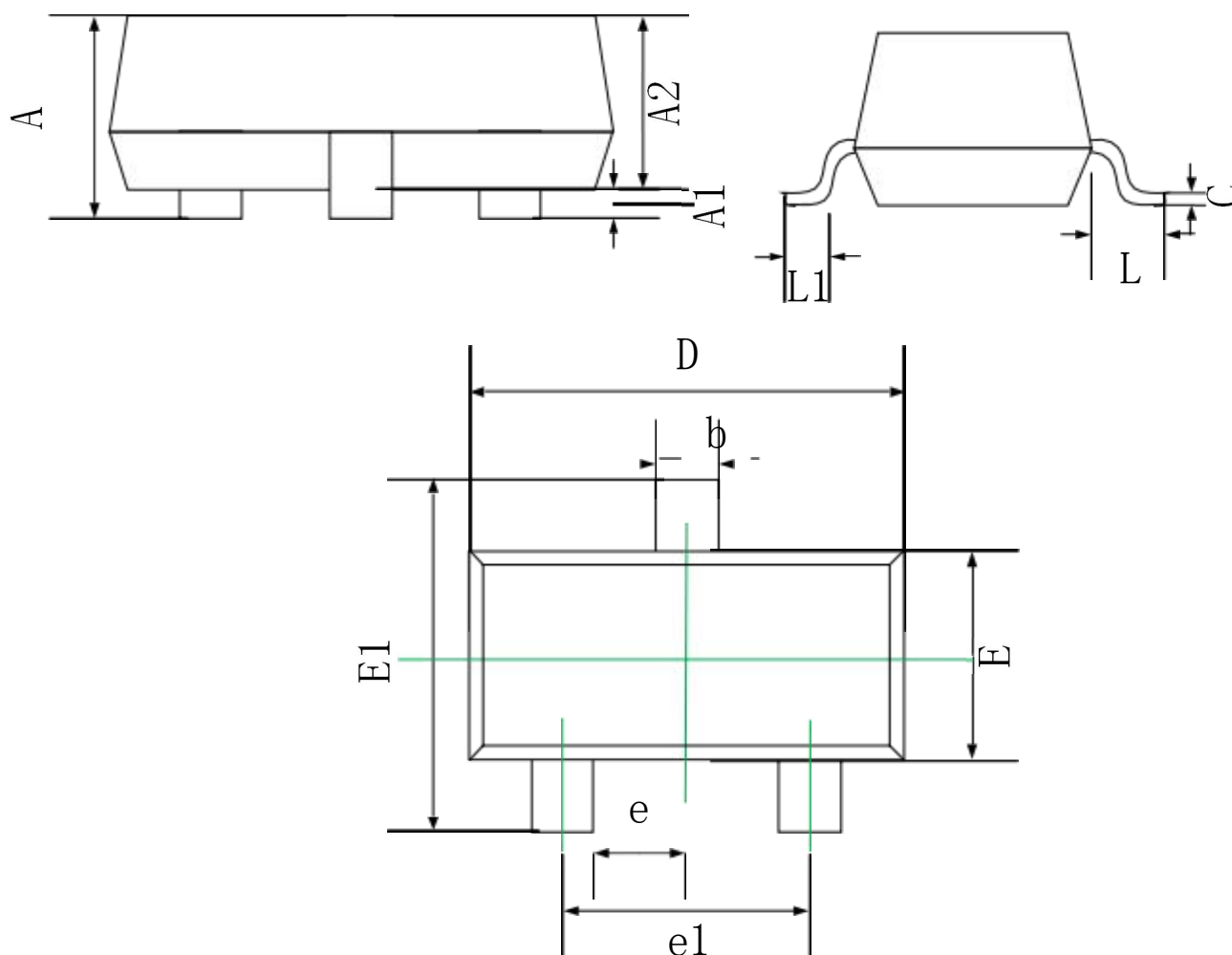
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> =250μA	30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> =24V, V <sub>GS</sub> = 0V			1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±12V, V <sub>DS</sub> = 0V			±0.1	μA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	0.7		1.4	V
Drain-source on-resistance <sup>(3)</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =5.8A		27	35	mΩ
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =5A		29	40	
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =4A		38	52	
Forward tranconductance	g <sub>FS</sub>	V <sub>DS</sub> =5V, I <sub>D</sub> =5A	8			S
Dynamic characteristics <sup>(4)</sup>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =15V, V <sub>GS</sub> =0V, f =1MHz			1050	pF
Output Capacitance	C <sub>oss</sub>			99		
Reverse Transfer Capacitance	C <sub>rss</sub>			77		
Gate resistance	R <sub>g</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =0V, f =1MHz			3.6	Ω
Switching Characteristics <sup>(4)</sup>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> =10V, V <sub>DS</sub> =15V, R <sub>L</sub> =2.7Ω, R <sub>GEN</sub> =3Ω			5	ns
Turn-on rise time	t <sub>r</sub>				7	
Turn-off delay time	t <sub>d(off)</sub>				40	
Turn-off fall time	t <sub>f</sub>				6	
Source-Drain Diode characteristics						
Diode Forward voltage <sup>(3)</sup>	V <sub>DS</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =1A			1	V

**Note :**

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t < 5 sec.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

**Typical Electrical and Thermal Characteristics**

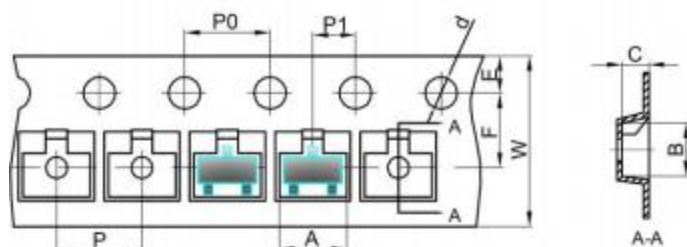




Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50

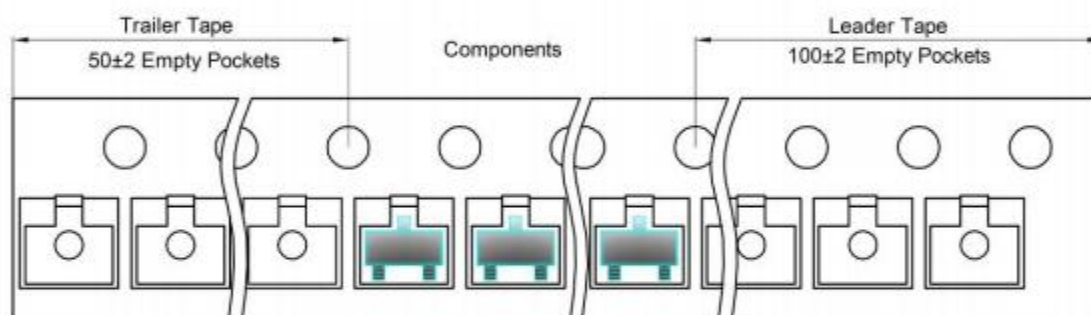
## SOT-23 Tape and reel

### SOT-23 Embossed Carrier Tape

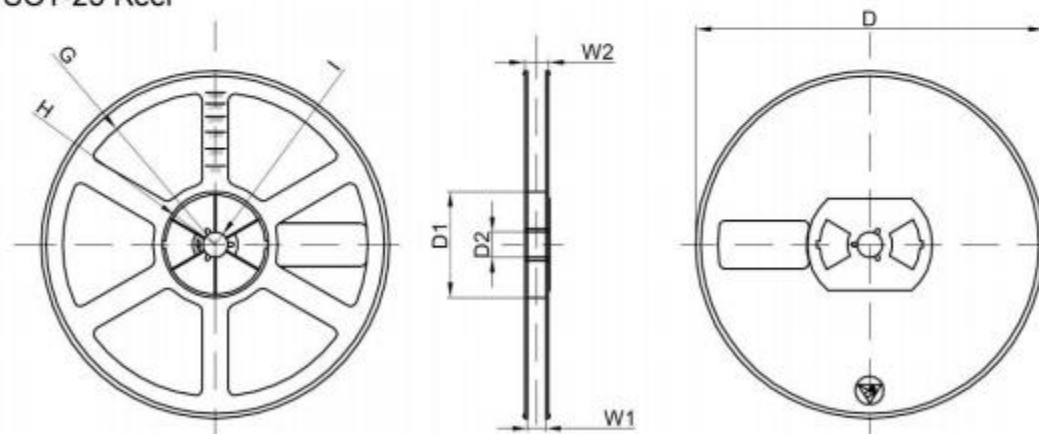


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

### 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	

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