

30V N-Channel MOSFET
Product Summary

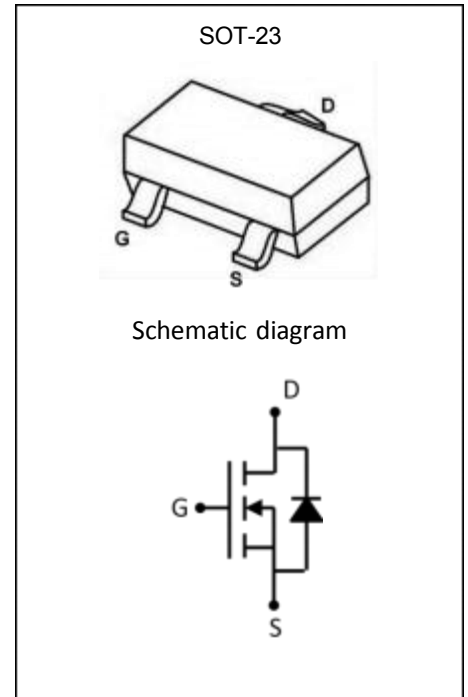
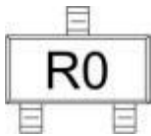
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	35mΩ@10V	5.8A
	40mΩ@4.5V	
	52mΩ@2.5V	

Feature

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

Application

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

MARKING:

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$ 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 ⁽¹⁾	I_{DM}	30	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient ⁽²⁾	$R_{\theta JA}$	357	°C/W
Junction Temperature	T_J	-55~ +150	°C
Storage Temperature	T_{STG}	-55~ +150	°C

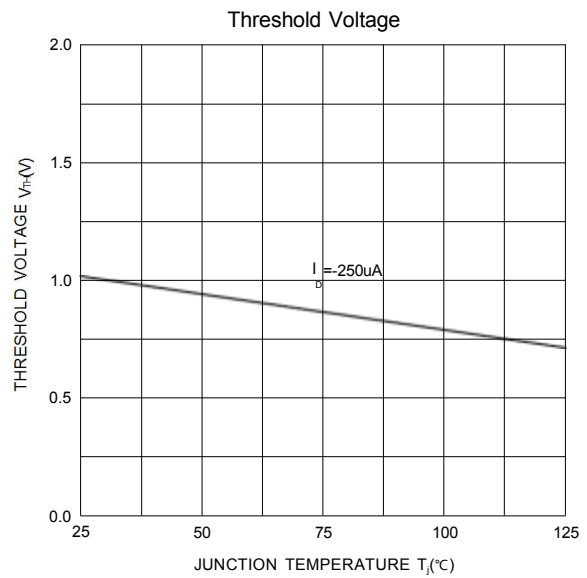
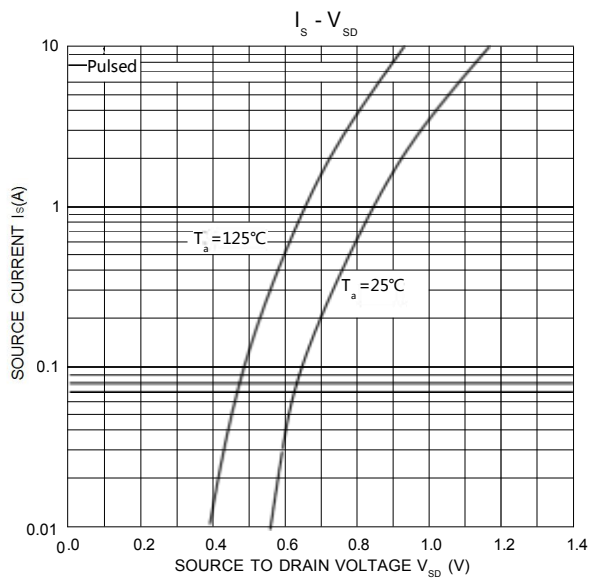
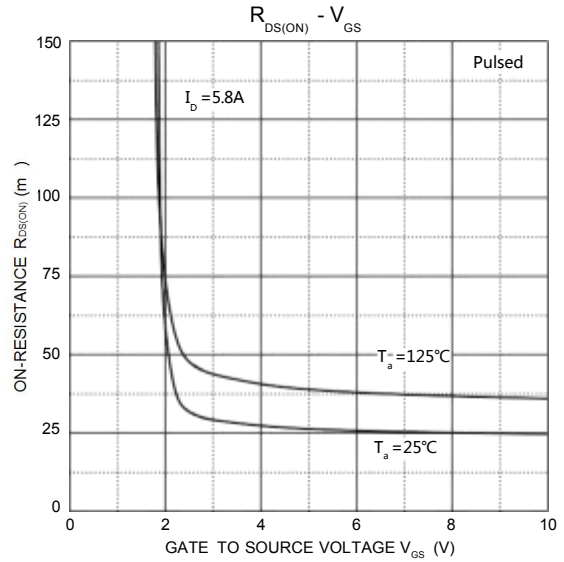
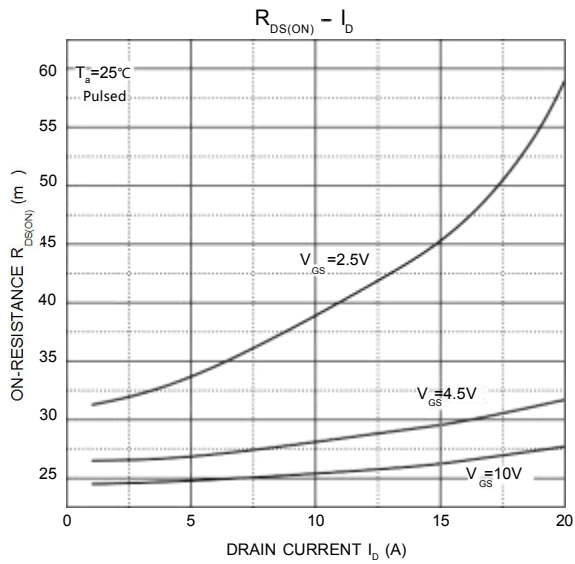
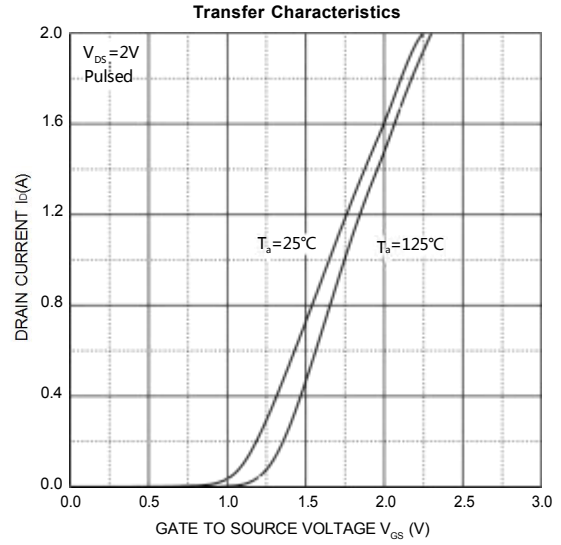
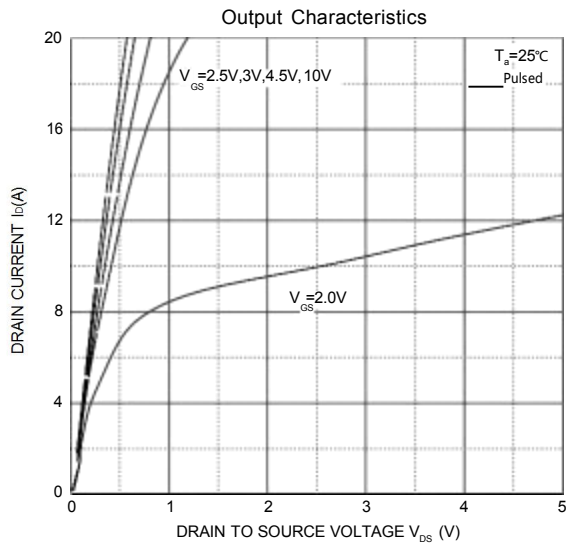
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

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

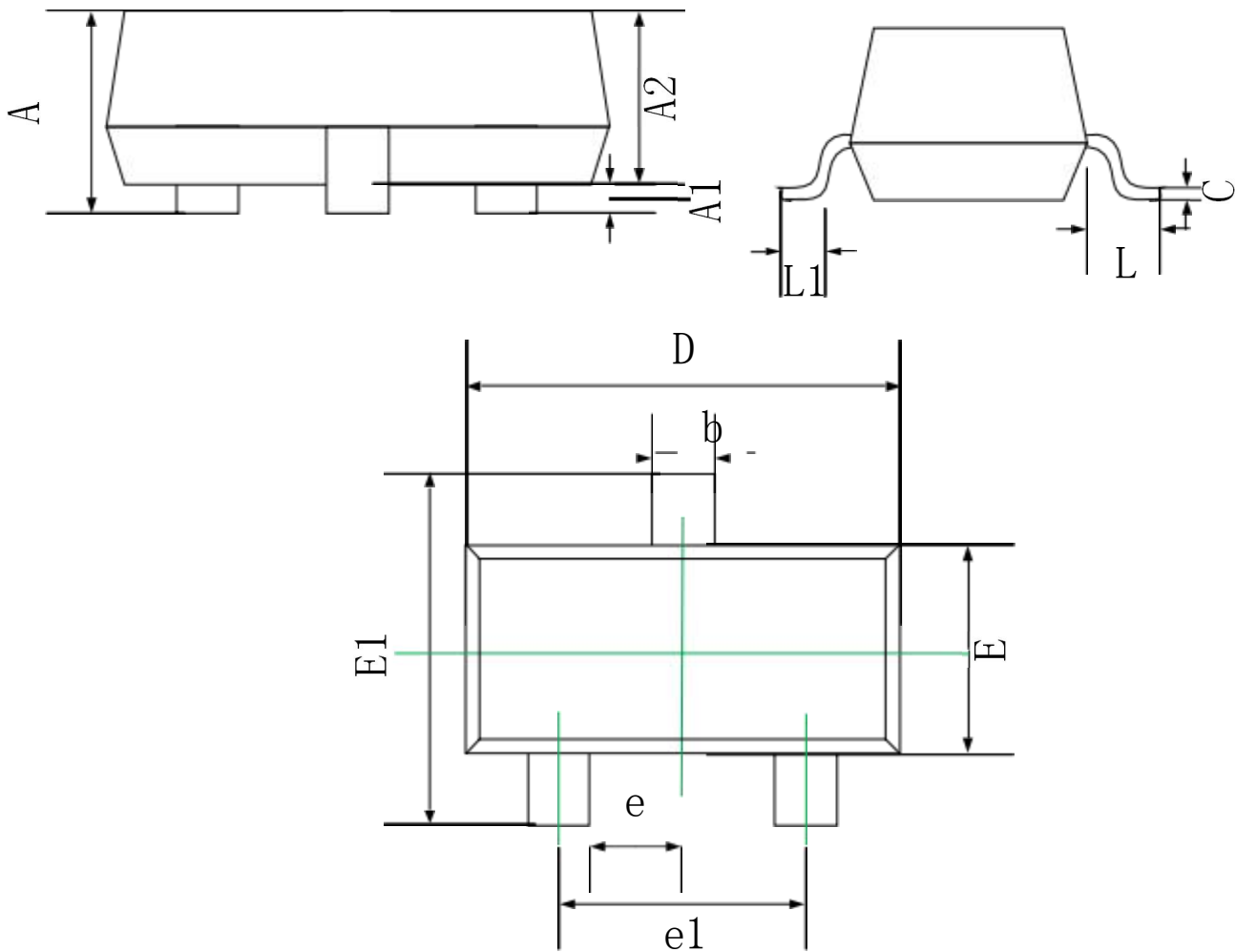
Note :

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



SOT-23 Package Information

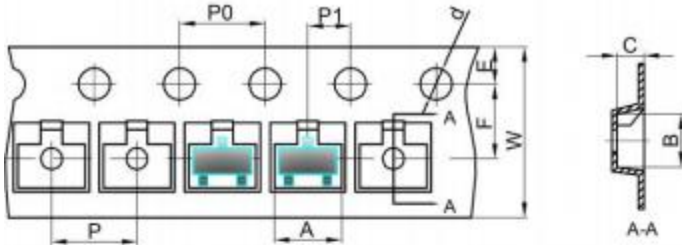


Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50

SOT-23 Tape and Reel

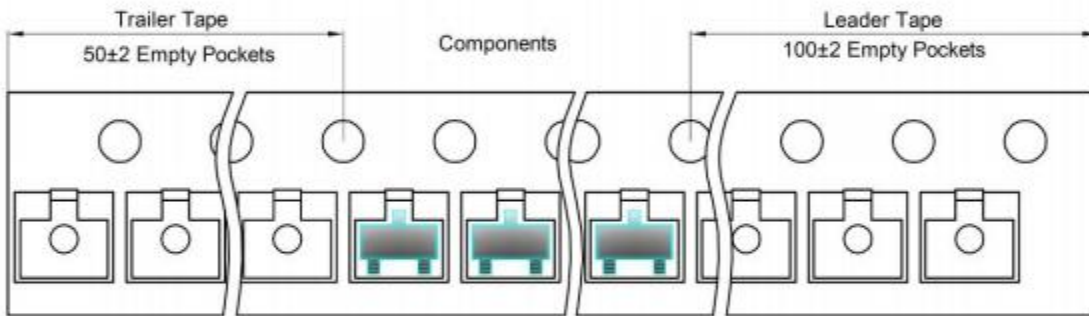
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

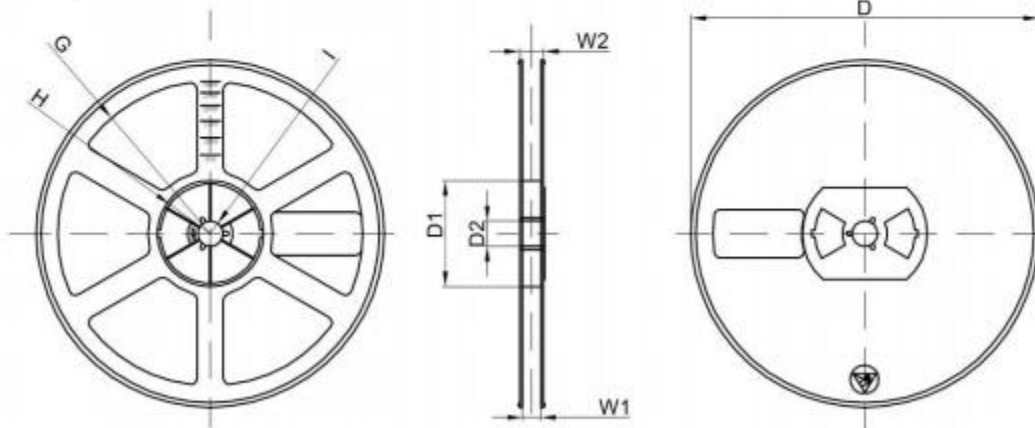


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	

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