

30V N-Channel MOSFET

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	60mΩ@10V	3.3A
	75mΩ@4.5V	

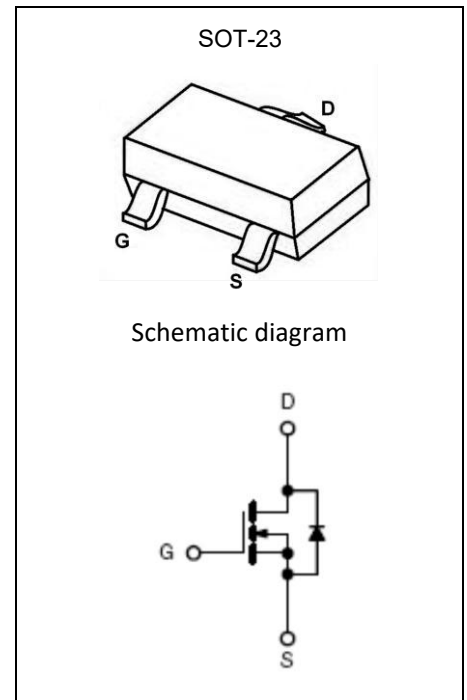
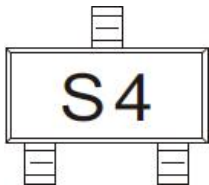
Feature

- TrenchFET Power MOSFET

Application

- Load Switch for Portable Devices
- DC/DC Converter

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}	±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	

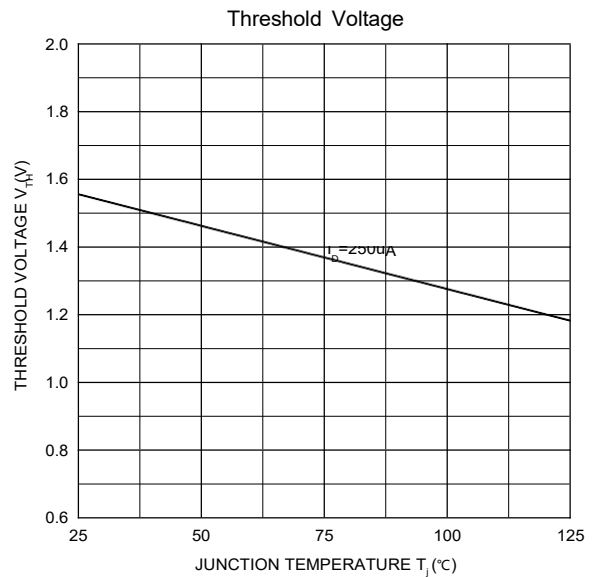
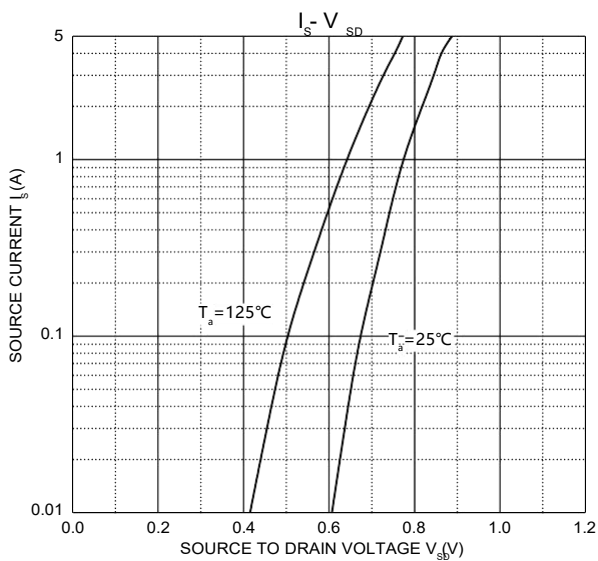
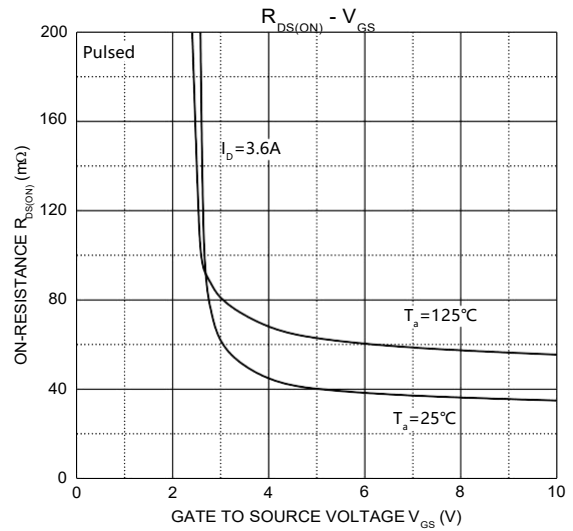
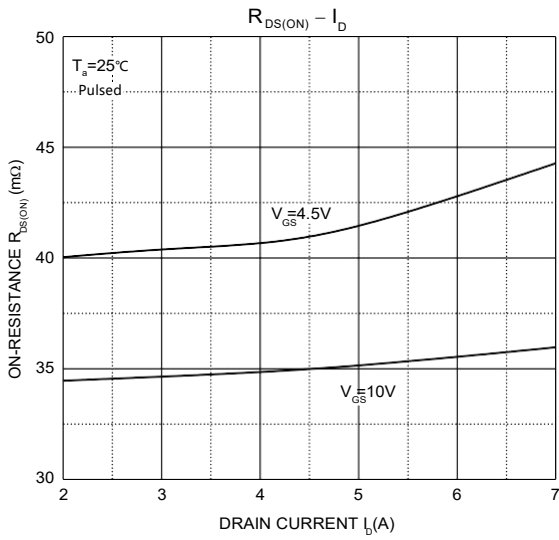
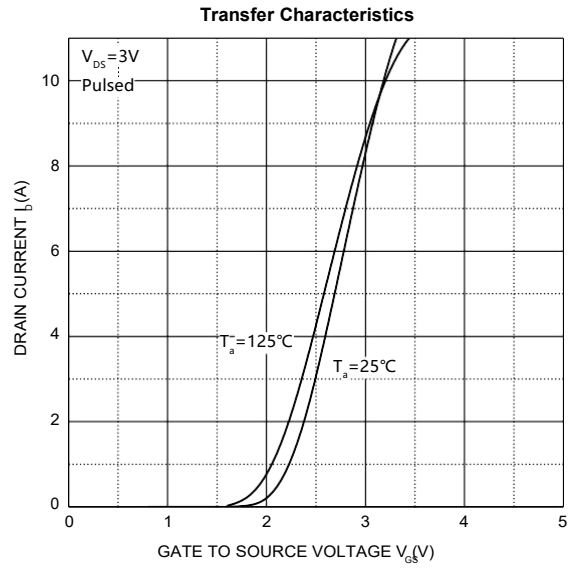
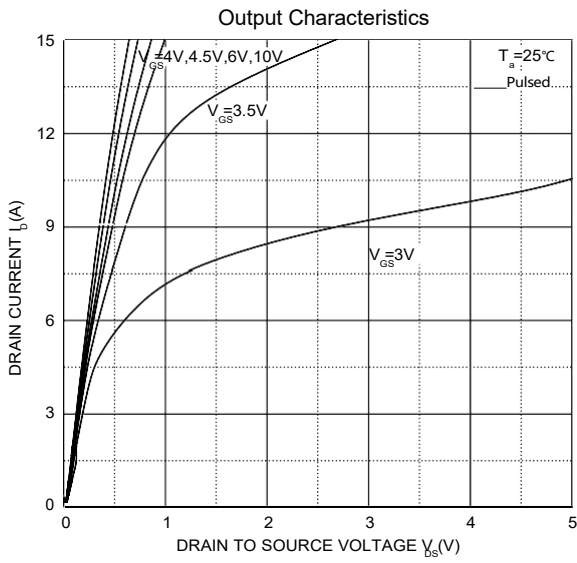
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

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} = 30V, V _{GS} = 0V			1	μA	
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA	
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	1.6	2.2	V	
Drain-source on-resistance ^a	R _{DS(on)}	V _{GS} = 10V, I _D = 3.2A		33	60	mΩ	
		V _{GS} = 4.5V, I _D = 2.8A		43	75		
Forward tranconductance ^a	g _{FS}	V _{DS} = 4.5V, I _D = 2.5A	2.5			S	
Dynamic characteristics^b							
Total gate charge	Q _g	V _{DS} = 15V, V _{GS} = 10V, I _D = 3.4A		4.5	6.7	nC	
					2.1		3.2
Gate-source charge	Q _{gs}	V _{DS} = 15V, V _{GS} = 4.5V, I _D = 3.4A		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 = 5.6Ω, I _D ≈ 2.7A, V _{GEN} = 4.5V, R _g = 1Ω		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 = 5.6Ω, I _D ≈ 2.7A, V _{GEN} = 10V, R _g = 1Ω		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°C			1.4	A	
Pulse diode forward current	I _{SM}				15	A	
Body diode voltage	V _{SD}	I _S = 2.7A, V _{GS} = 0V			1.2	V	

Notes:

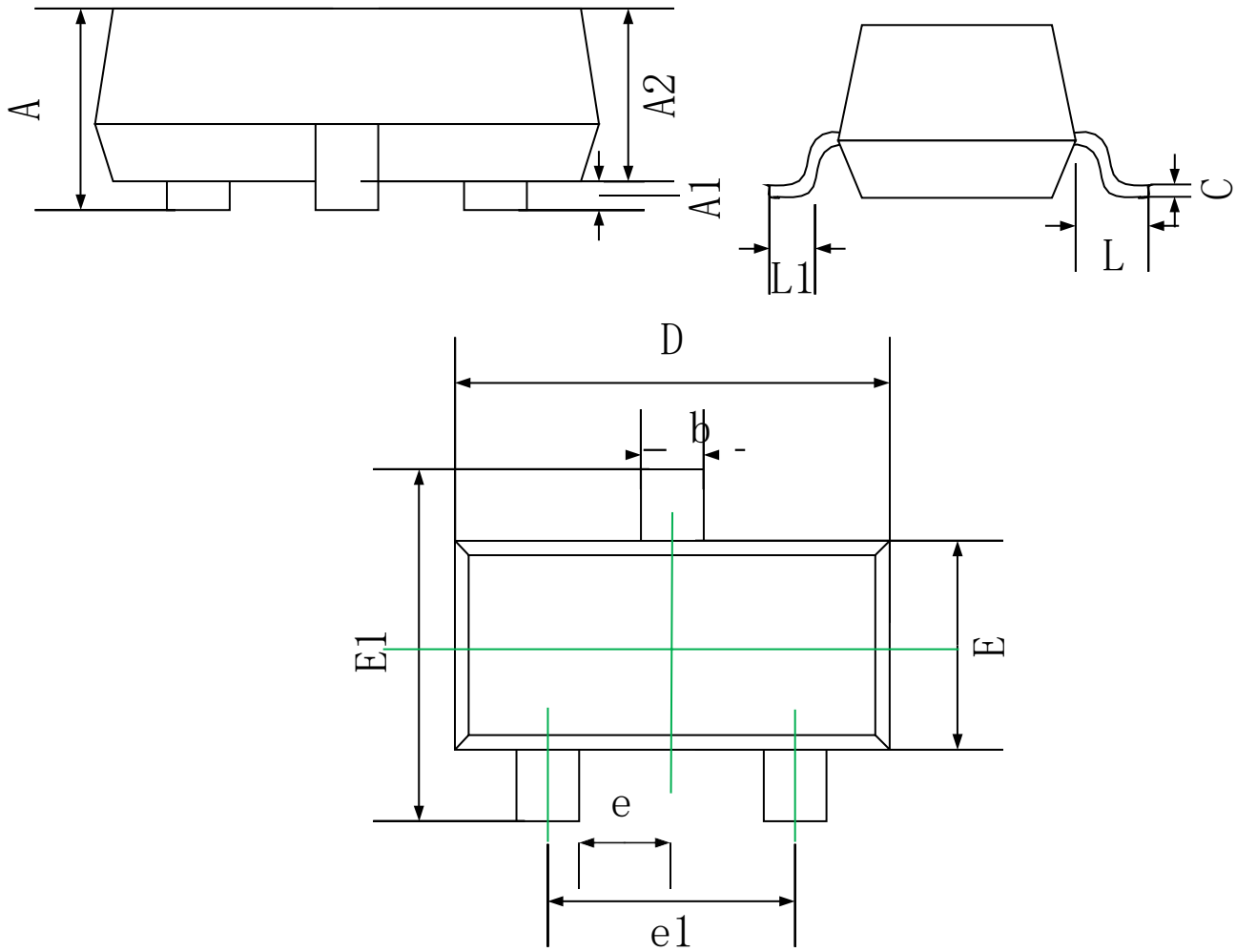
- Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
- Guaranteed by design, not subject to production testing.

Typical Characteristics





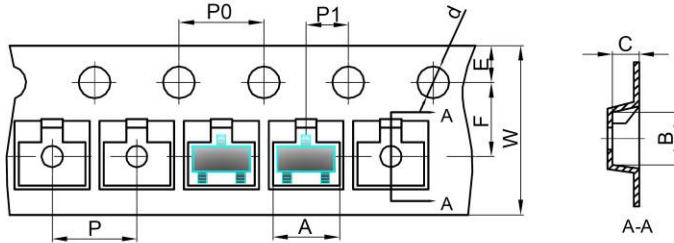
SOT-23 Package Information



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

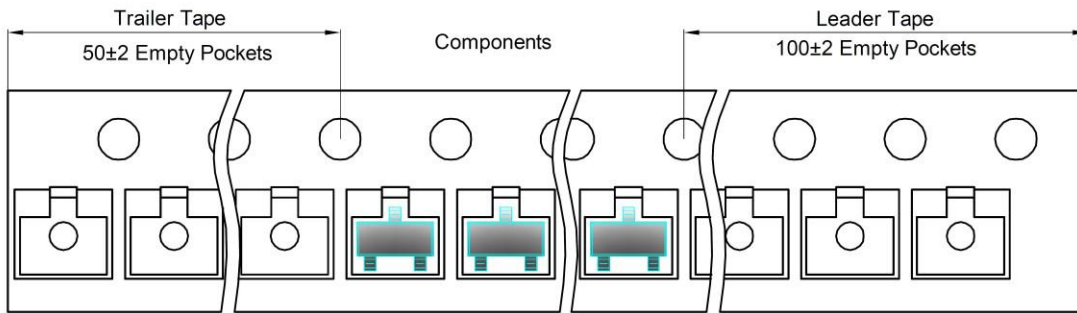
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

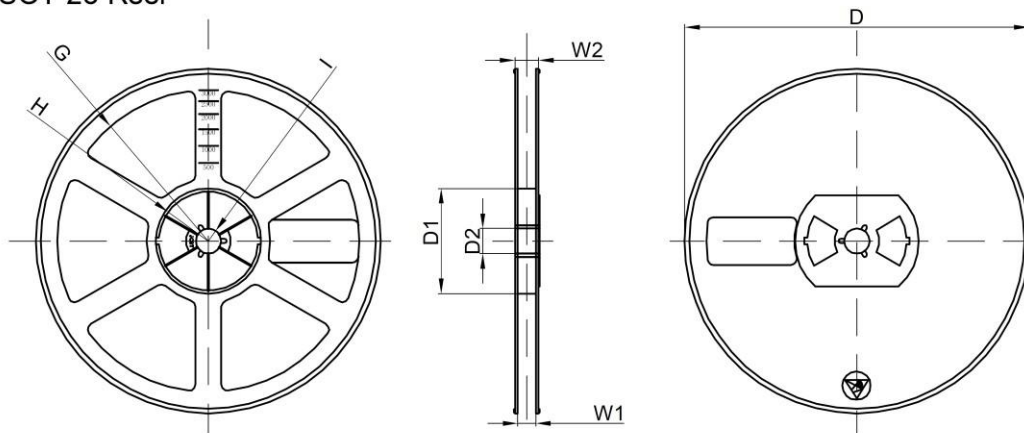


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	