

Product Summary

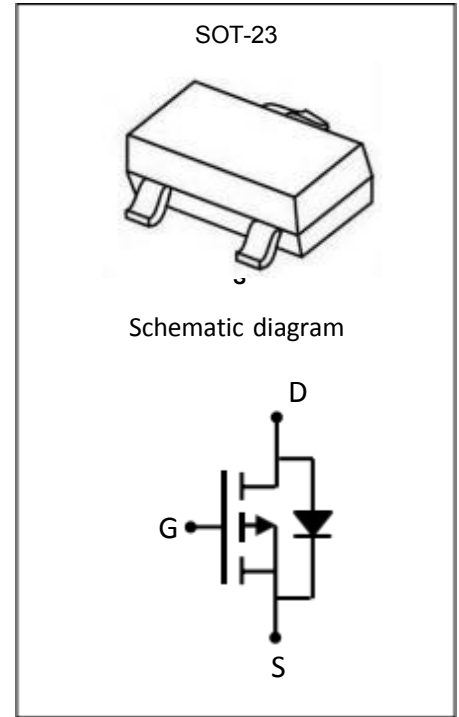
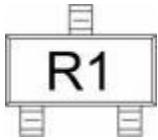
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-30V	65mΩ@-10V	-4.2A
	75mΩ@-4.5V	
	90mΩ@-2.5V	

Feature

- TrenchFET Power MOSFET
- Exceptional on-resistance and maximum DC current capability

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	-4.2	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$

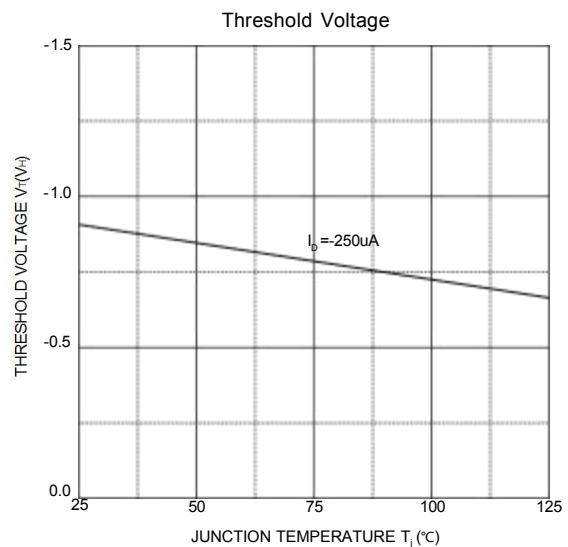
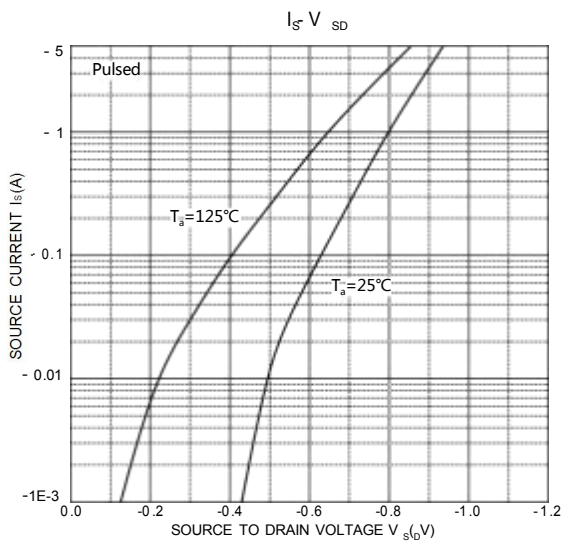
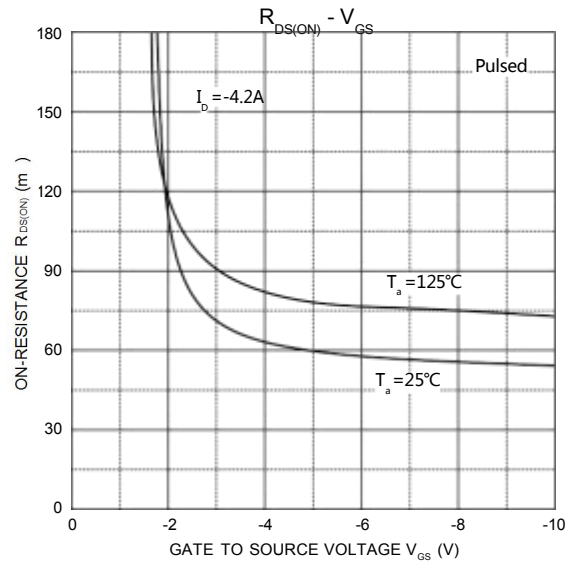
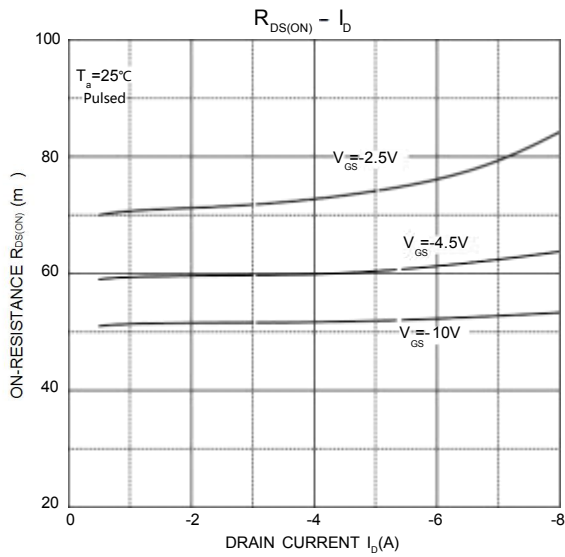
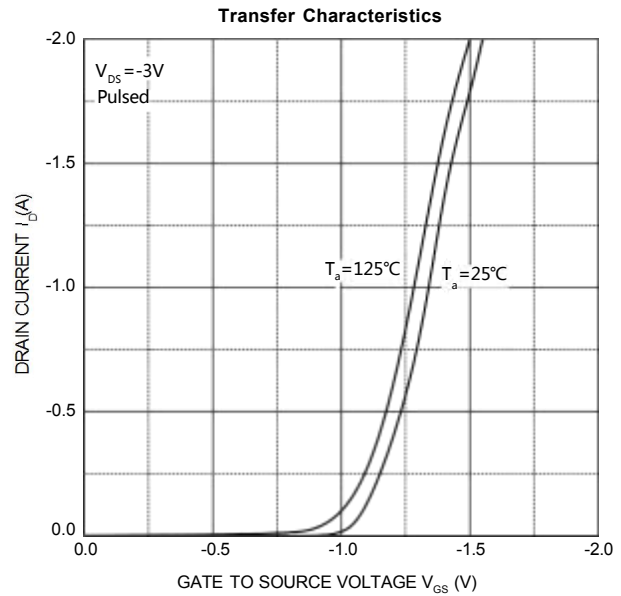
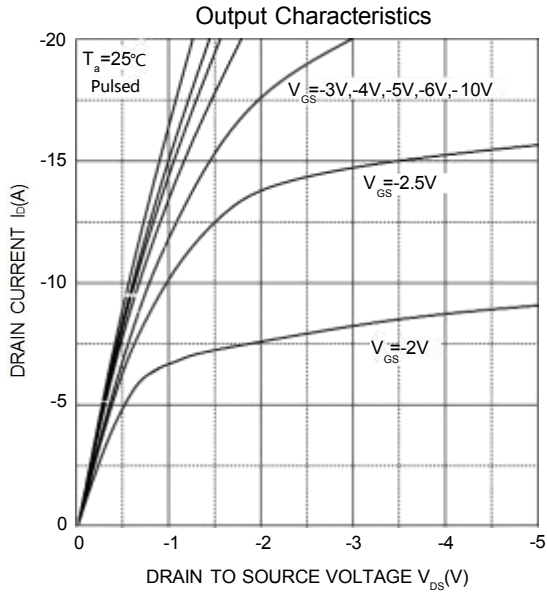
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

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			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.7	-0.9	-1.3	V
Drain-source on-resistance ⁽¹⁾	R _{DS(on)}	V _{GS} = -10V, I _D = -4.2A		50	65	mΩ
		V _{GS} = -4.5V, I _D = -4A		60	75	
		V _{GS} = -2.5V, I _D = -1A		70	90	
Forward tranconductance ⁽¹⁾	g _{FS}	V _{DS} = -5V, I _D = -4.2A		10		S
Dynamic characteristics⁽²⁾						
Input Capacitance	C _{iss}	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		954		pF
Output Capacitance	C _{oss}			115		
Reverse Transfer Capacitance	C _{rss}			77		
Switching characteristics⁽²⁾						
Turn-on delay time	t _{d(on)}	V _{GS} = -10V, V _{DS} = -15V, R _L = 3.6Ω, R _{GEN} = 6Ω			6.3	ns
Turn-on rise time	t _r				3.2	
Turn-off delay time	t _{d(off)}				38.2	
Turn-off fall time	t _f				12	
Source-Drain Diode characteristics						
Diode forward current	I _S				-2	A
Diode pulsed forward current	I _{SM}				-25	A
Diode Forward voltage ⁽¹⁾	V _{DS}	V _{GS} = 0V, I _S = -4.2A			-1.2	V

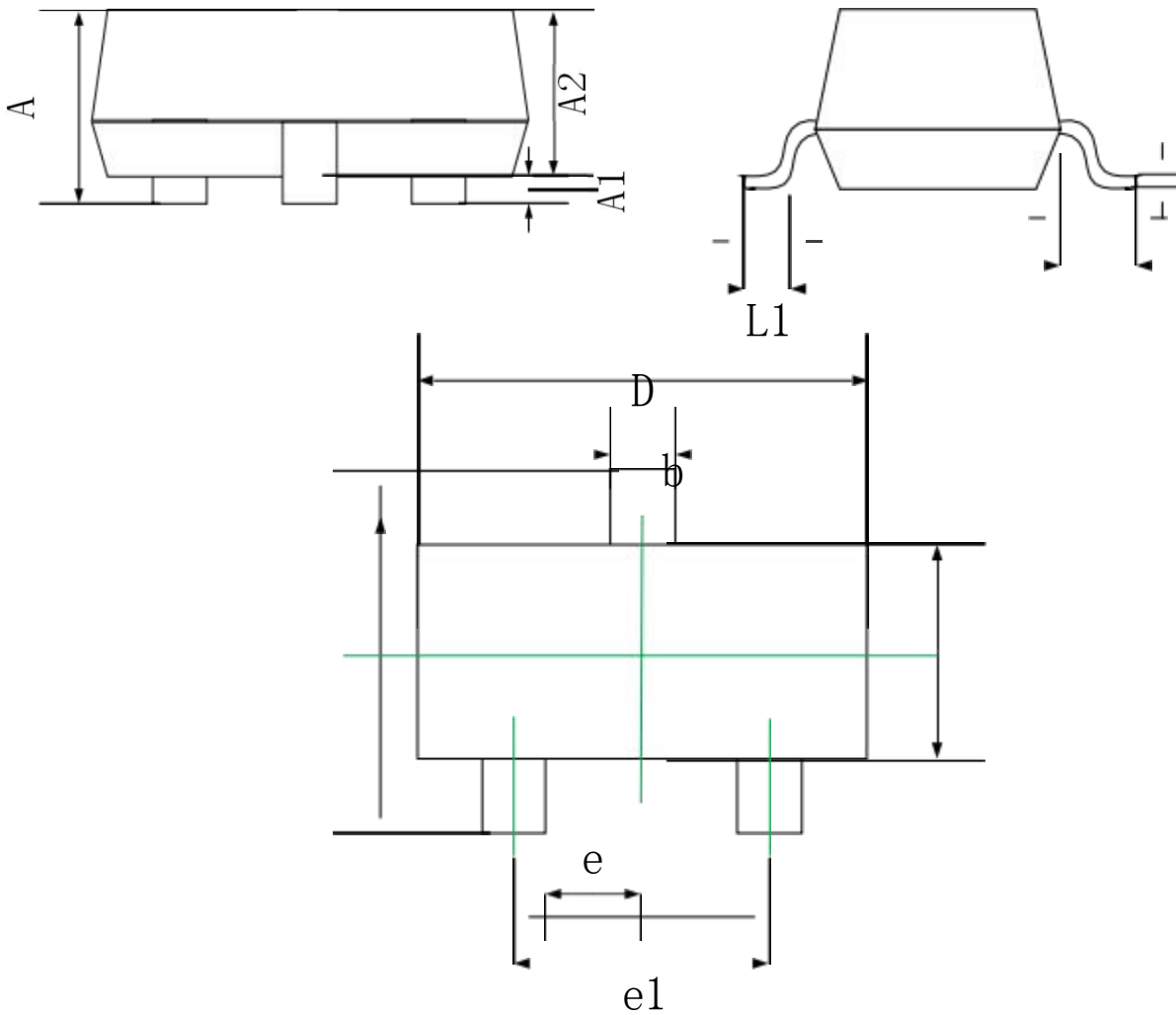
Notes:

1. Pulse test; pulse width ≤ 300μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics



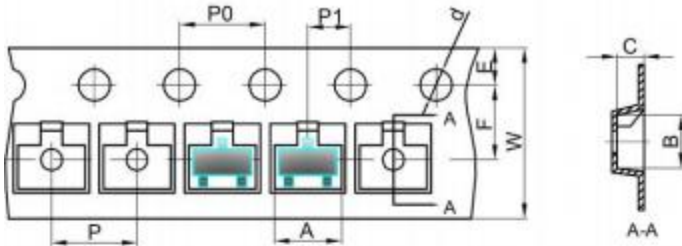
SOT-23 Package Information



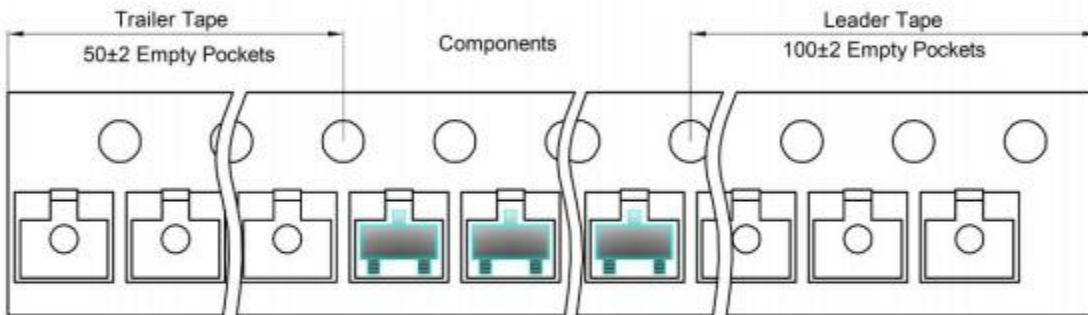
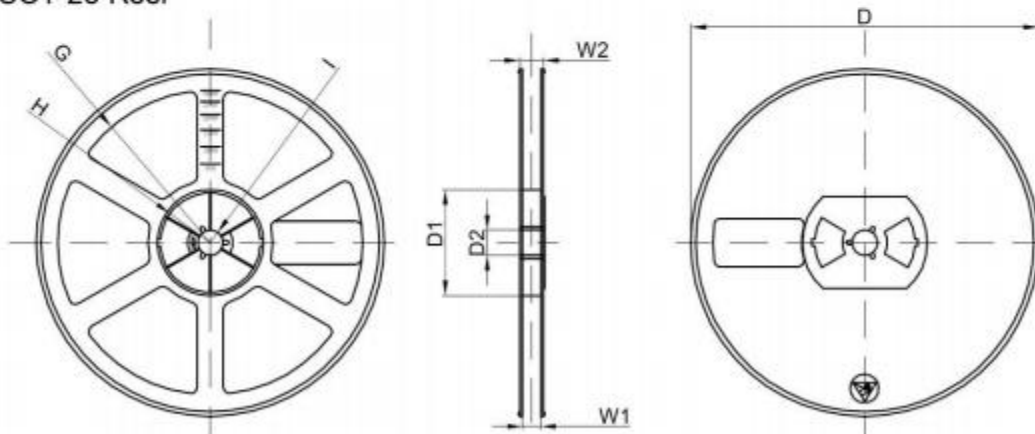
Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50

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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