



Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	42m Ω @-4.5V	-2.8A
	46m Ω @-2.5V	

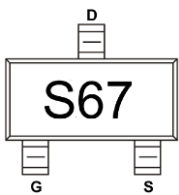
Feature

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

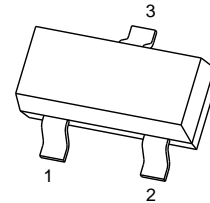
Application

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

MARKING:

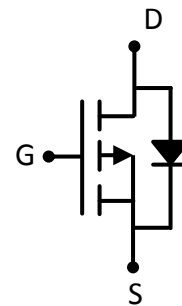


SOT-23



1. GATE
2. SOURCE
3. DRAIN

Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current	I_D	-2.8 ^a	A
Pulsed Drain Current ($t=300\mu\text{s}$)	I_{DM}	-10	A
Power Dissipation	P_D	0.35 ^b	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357 ^b	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

a. Device mounted on FR-4 substrate board, with minimum recommended pad layout, single side.

b. Device mounted on no heat sink.

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

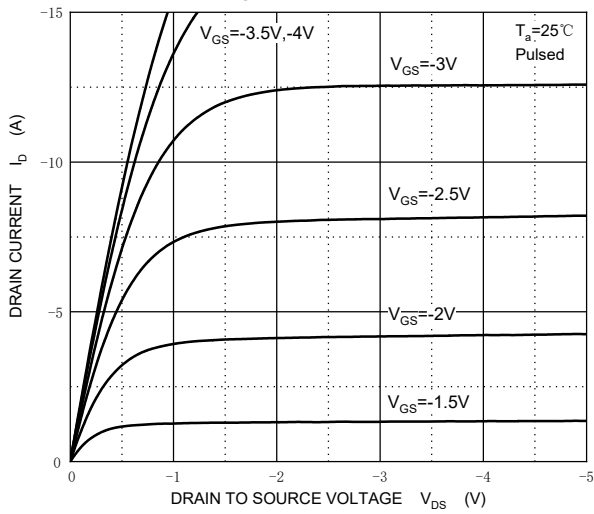
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -20V, V _{GS} = 0V			-100	nA
Gate-body leakage current	I _{GSS}	V _{GS} = ±8V, V _{DS} = 0V			±100	nA
Gate threshold voltage ^a	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.4	-0.6	-1	V
Drain-source on-resistance ^a	R _{DS(on)}	V _{GS} = -4.5V, I _D = -2.5A		42	55	mΩ
		V _{GS} = -2.5V, I _D = -2.0A		46	69	
Forward transconductance ^a	g _{FS}	V _{DS} = -5V, I _D = -5A	3			S
Dynamic characteristics^b						
Input Capacitance	C _{iss}	V _{DS} = -10V, V _{GS} = 0V, f = 1MHz		548		pF
Output Capacitance	C _{oss}			96		
Reverse Transfer Capacitance	C _{rss}			89		
Gate resistance	R _g	f = 1MHz		45	50	Ω
Total Gate Charge	Q _g	V _{DS} = -6V, V _{GS} = -4.5V, I _D = -5A		10		nC
Gate-Source Charge	Q _{gs}			1.7		
Gate-Drain Charge	Q _{gd}			2.6		
Turn-on delay time	t _{d(on)}	V _{DD} = -6V, V _{GEN} = -4.5V, I _D = -4A R _L = 6Ω, R _{GEN} = 1Ω		26	40	ns
Turn-on rise time	t _r			24	40	
Turn-off delay time	t _{d(off)}			45	75	
Turn-off fall time	t _f			18	20	
Source-Drain Diode characteristics						
Diode forward current	I _S	T _C = 25°C			-1.5	A
Diode pulsed forward current	I _{SM}				-20	A
Diode Forward voltage ^a	V _{DS}	V _{GS} = 0V, I _S = -4A			-1.2	V
Diode reverse recovery time ^b	t _{rr}	I _F = -4A, dI/dt = 100A/μs			40	ns
Diode reverse recovery charge ^b	Q _{rr}				30	nC

Notes:

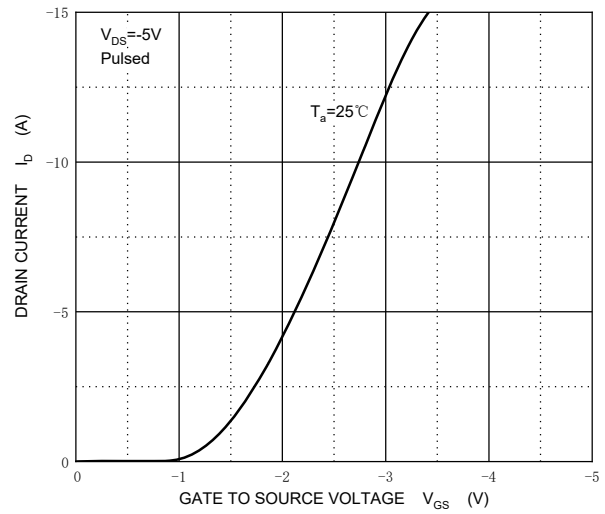
- a. Pulse test; pulse width ≤ 300μs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics

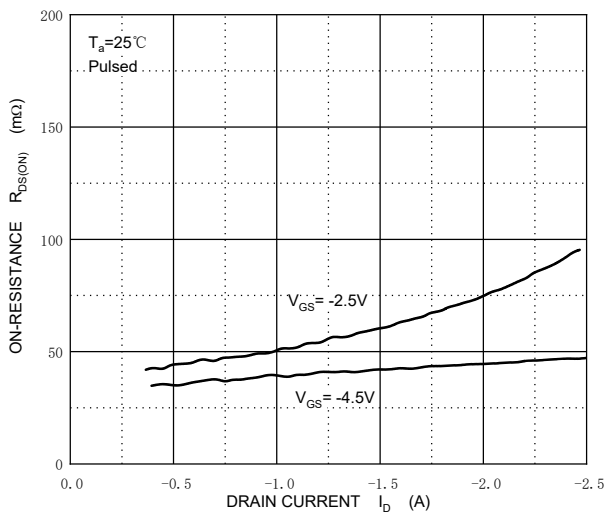
Output Characteristics



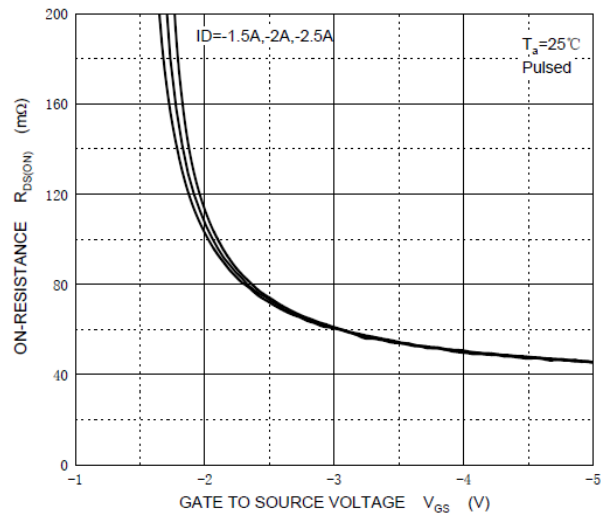
Transfer Characteristics



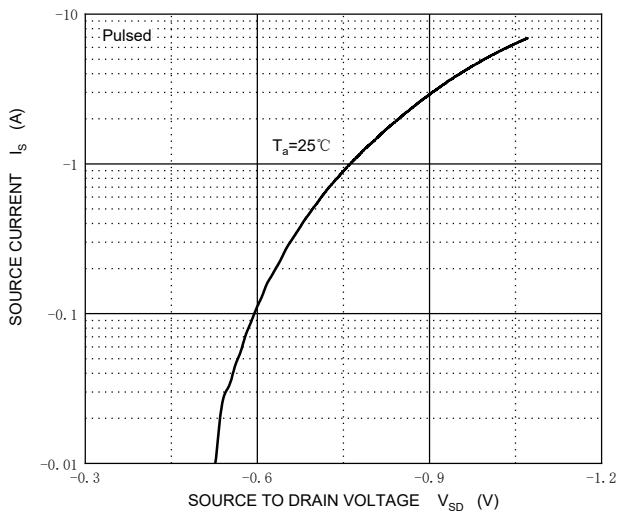
$R_{DS(ON)}$ — I_D



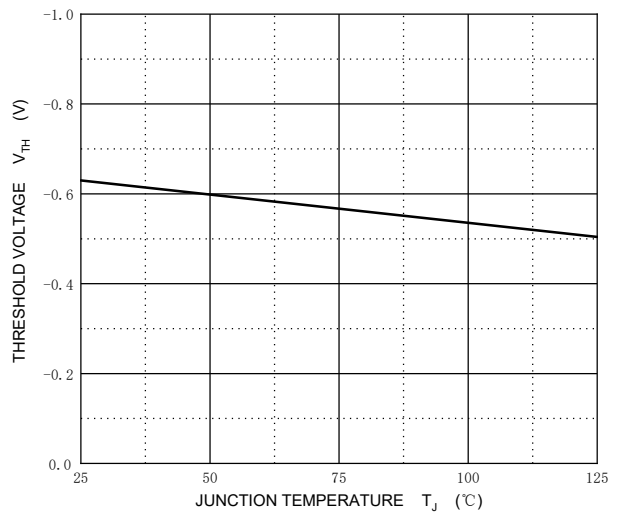
$R_{DS(ON)}$ — V_{GS}



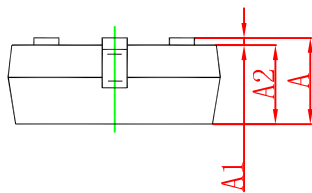
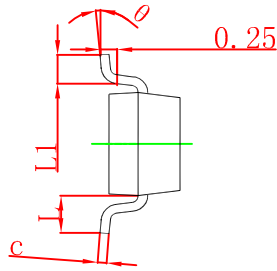
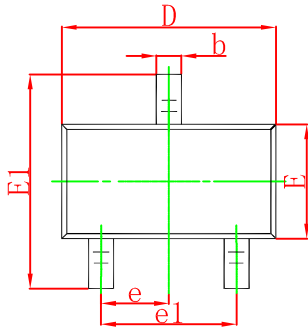
I_S — V_{SD}



Threshold Voltage



SOT-23 Package Information

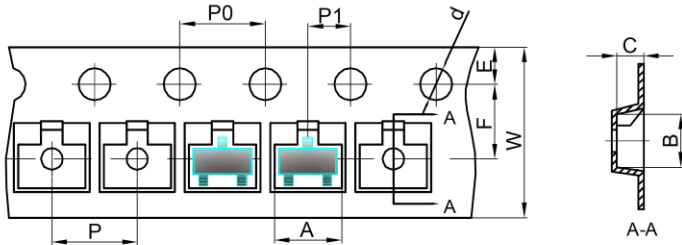


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Tape and Reel

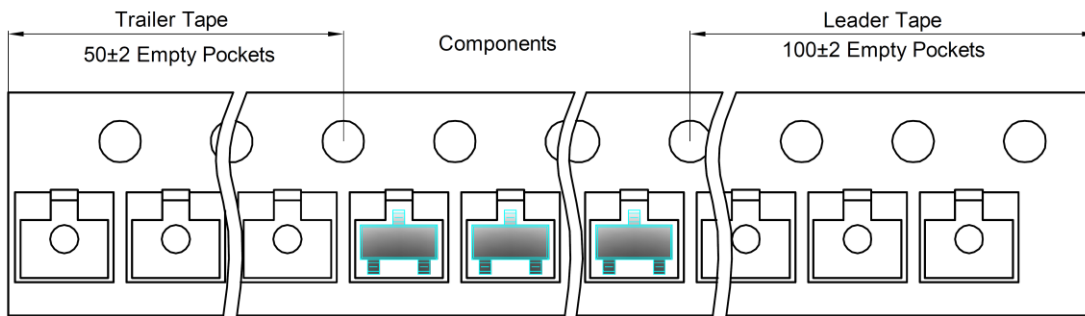
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

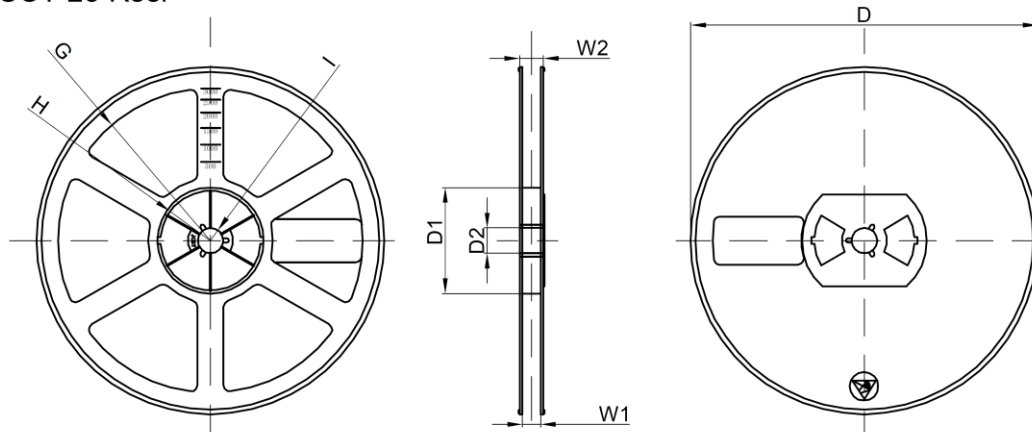


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)