

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	30mΩ@10V	5.8A
	42mΩ@4.5V	

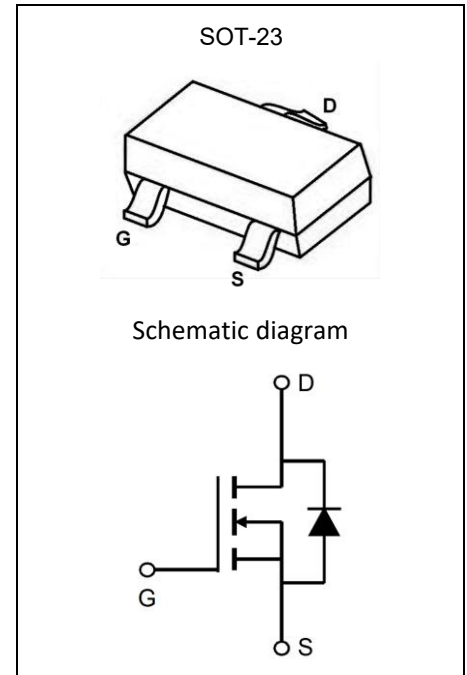
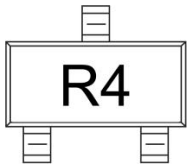
Feature

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	5.8	A
Pulsed Drain Current	I_{DM}	30	A
Power Dissipation*	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

* Repetitive rating : Pulse width limited by maximum junction temperature.

MOSFET ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

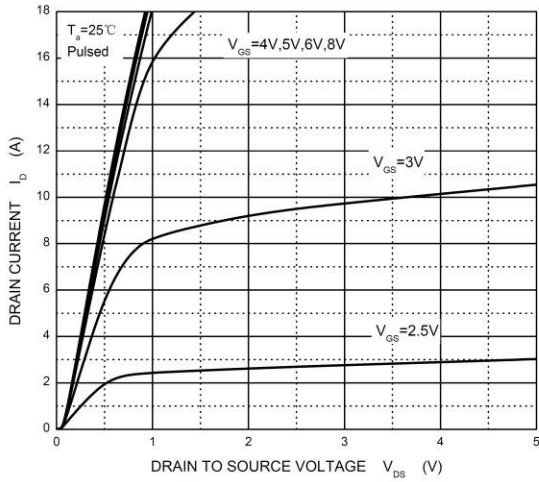
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.5	3	V
Drain-source on-resistance ⁽¹⁾	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 5.8A$		21	30	m Ω
		$V_{GS} = 4.5V, I_D = 4.8A$		28	42	
Forward tranconductance ⁽¹⁾	g_{FS}	$V_{DS} = 5V, I_D = 3.8A$	5			S
Body Diode Voltage	V_{SD}	$I_S = 1A, V_{GS} = 0V$			1	V
DYNAMIC CHARACTERISTICS⁽²⁾						
Input Capacitance	C_{iss}	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$			810	pF
Output Capacitance	C_{oss}			115		
Reverse Transfer Capacitance	C_{rss}			83		
Gate resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$			1.5	Ω
SWITCHING CHARACTERISTICS⁽²⁾						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 15V,$ $R_L = 2.6\Omega, R_{GEN} = 6\Omega$			6.4	ns
Turn-on rise time	t_r			3.1		
Turn-off delay time	$t_{d(off)}$			15.0		
Turn-off fall time	t_f			2.6		

Notes:

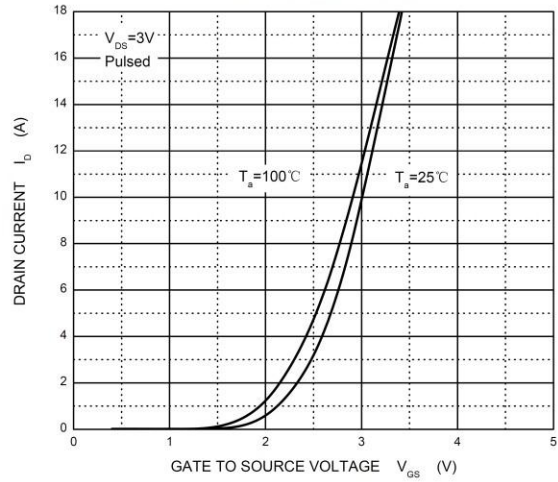
1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.
2. These parameters have no way to verify.

Typical Electrical and Thermal Characteristics

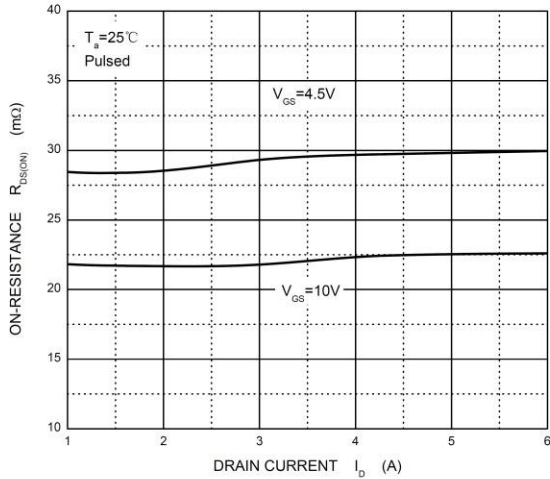
Output Characteristics



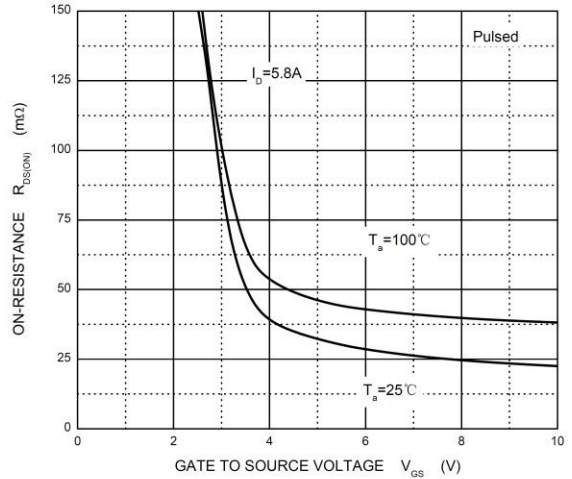
Transfer Characteristics



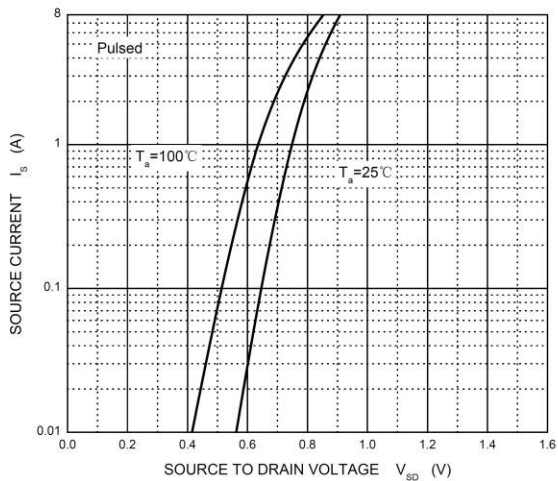
$R_{DS(ON)}$ — I_D



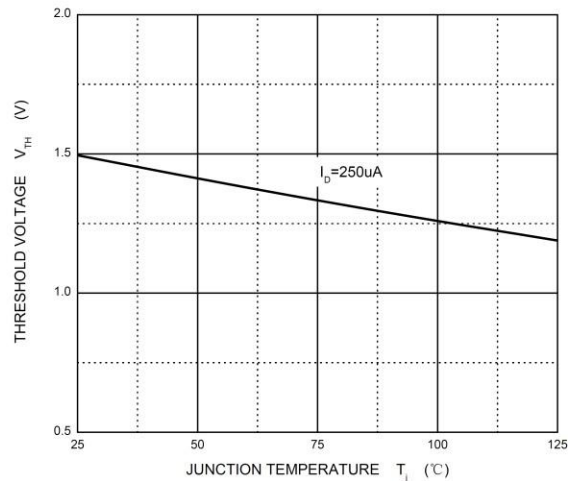
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



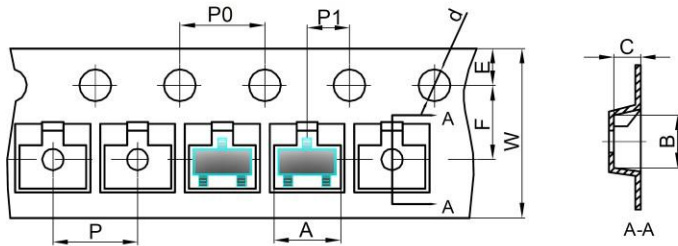
Threshold Voltage



SOT-23 Tape and Reel

SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

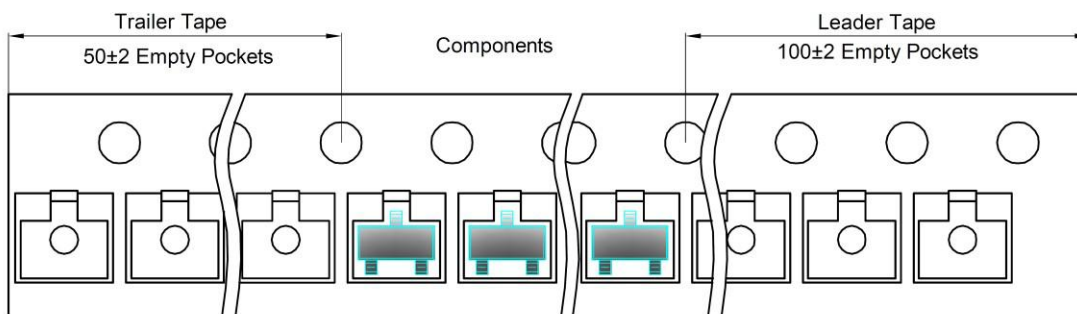


Packaging Description:

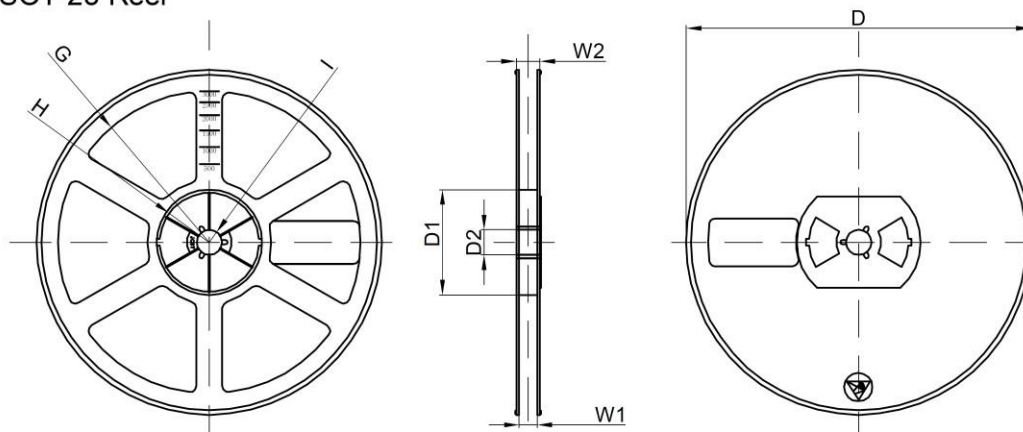
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

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	