

### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
-20V	57mΩ@-4.5V	-2.9A
	76mΩ@-2.5V	
	110mΩ@-1.8V	

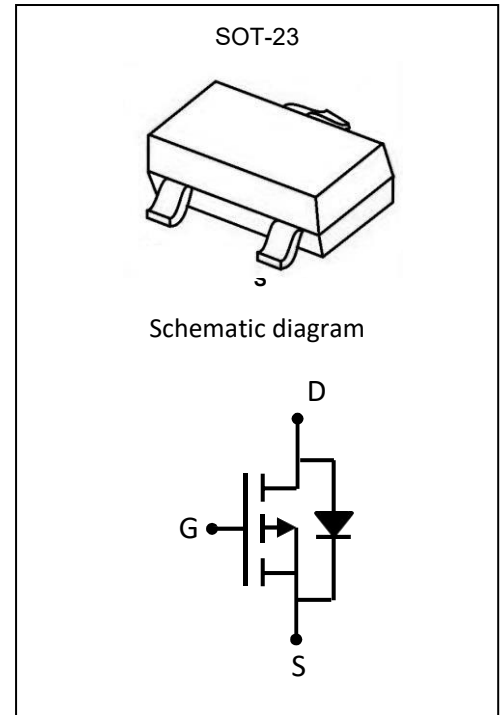
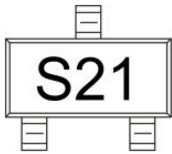
### Feature

- TrenchFET Power MOSFET

### Application

- PA Switch
- Load Switch

### MARKING:



### 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	$V_{GS}$	±12	V
Continuous Drain Current	$I_D$	-2.9	A
Pulsed Drain Current	$I_{DM}$	-12	A
Continuous Drain Current	$I_S$	-0.59	A
Power Dissipation	$P_D$	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	$^\circ\text{C}$

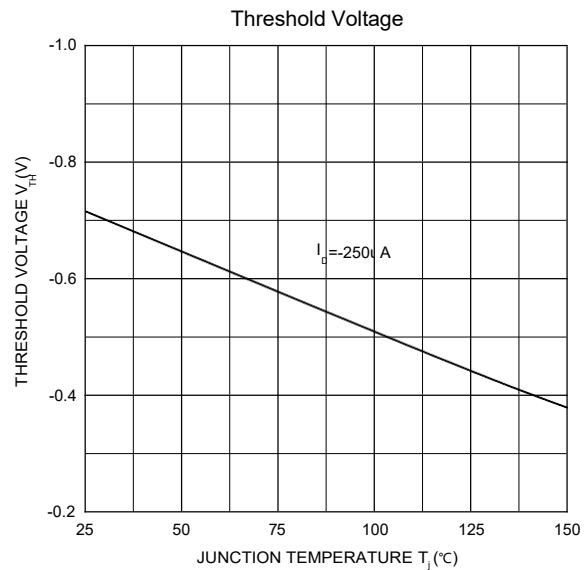
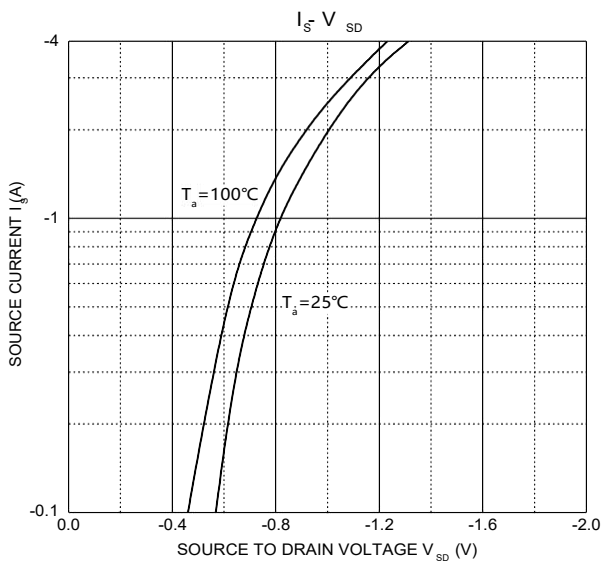
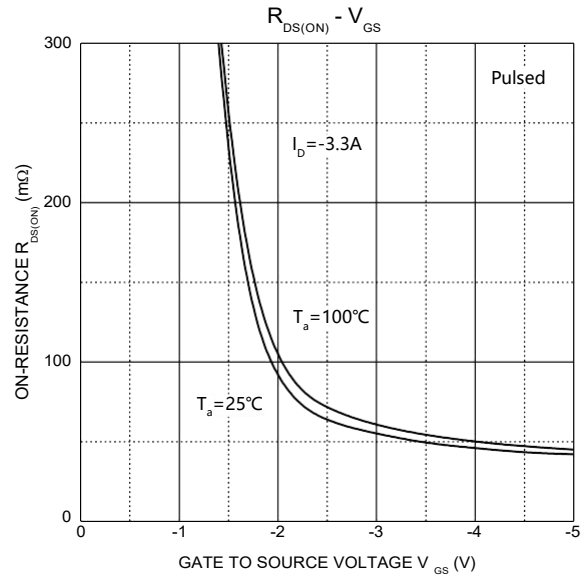
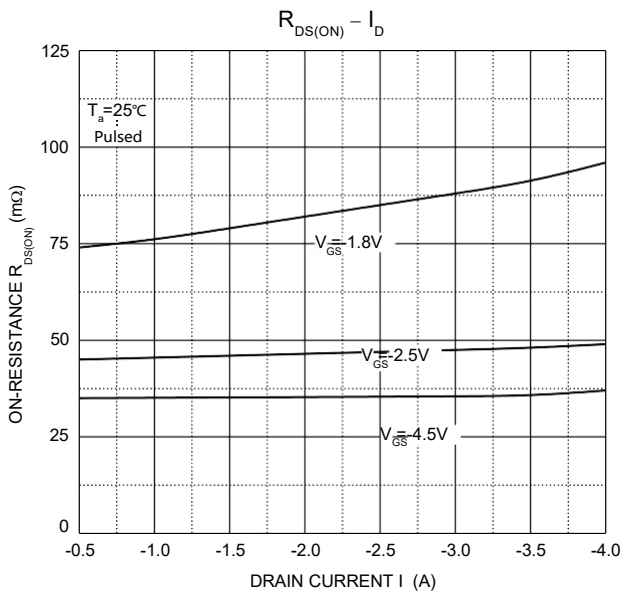
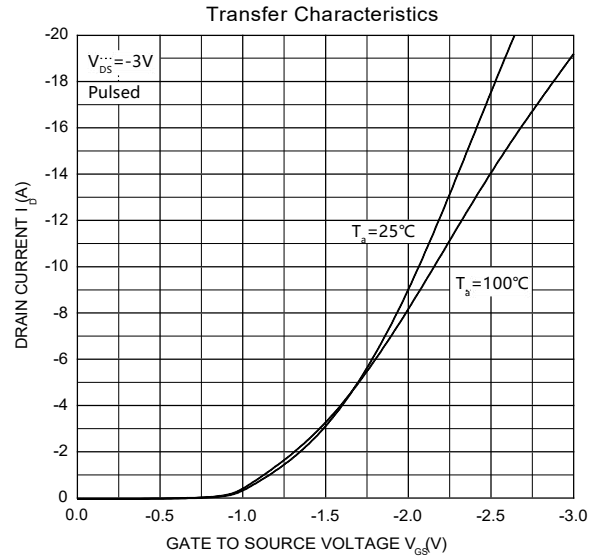
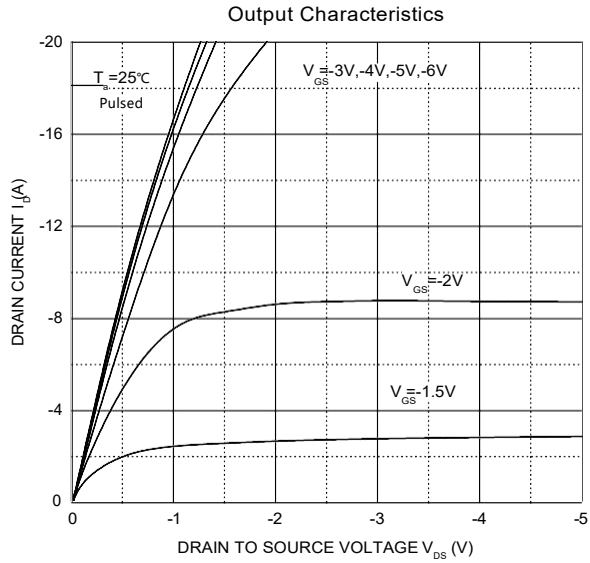
**MOSFET ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$  unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -16V, V_{GS} = 0V$			-1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 12V, V_{DS} = 0V$			$\pm 100$	nA
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4	-0.72	-0.9	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -3.3A$		35	57	m $\Omega$
		$V_{GS} = -2.5V, I_D = -2.8A$		49	76	
		$V_{GS} = -1.8V, I_D = -2.3A$		74	110	
Forward transconductance	$g_{FS}$	$V_{DS} = -5V, I_D = -3.3A$	3			S
<b>Dynamic characteristics</b>						
Input Capacitance <sup>a,b</sup>	$C_{iss}$	$V_{DS} = -6V, V_{GS} = 0V, f = 1MHz$		715		pF
Output Capacitance <sup>a,b</sup>	$C_{oss}$			170		pF
Reverse Transfer Capacitance <sup>a,b</sup>	$C_{rss}$			120		pF
Total Gate Charge <sup>a</sup>	$Q_g$	$V_{DS} = -6V, V_{GS} = -4.5V, I_D = -3.3A$			13	nC
Gate-Source Charge <sup>a</sup>	$Q_{gs}$			1.2		nC
Gate-Drain Charge <sup>a</sup>	$Q_{gd}$			1.6		nC
<b>Switching<sup>a,b</sup></b>						
Turn-on delay time	$t_{d(on)}$	$V_{GEN} = -4.5V, V_{DD} = -6V,$ $I_D = -1.0A, R_G = 6\Omega, R_L = 6\Omega$			25	ns
Turn-on rise time	$t_r$				55	ns
Turn-off delay time	$t_{d(off)}$				90	ns
Turn-off fall time	$t_f$				60	ns
<b>Source-Drain Diode characteristics</b>						
Diode Forward voltage	$V_{DS}$	$V_{GS} = 0V, I_S = -1.6A$			-1.2	V

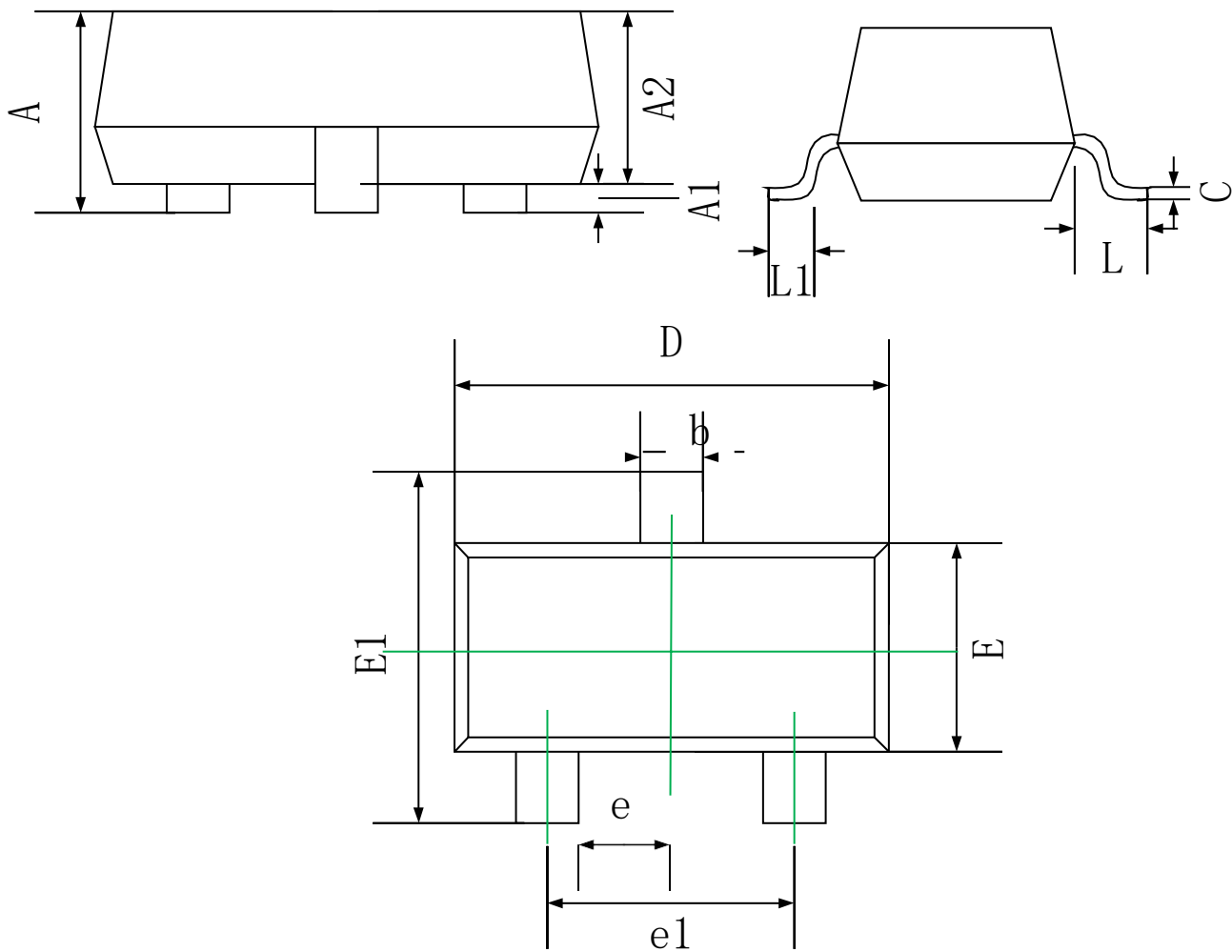
**Notes:**

1. Pulse test; pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$ .
2. These parameters have no way to verify.

## Typical Electrical and Thermal Characteristics



SOT-23 Package Information

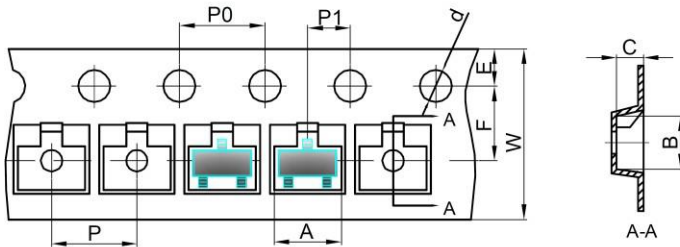


Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50

SOT-23 Tape and Reel

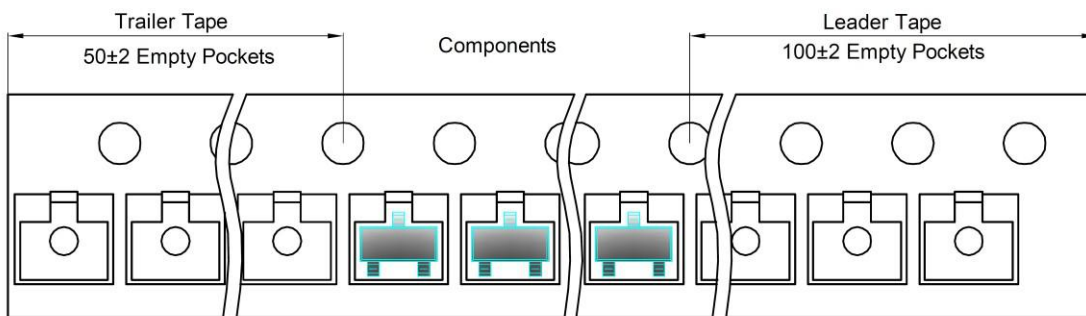
## SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

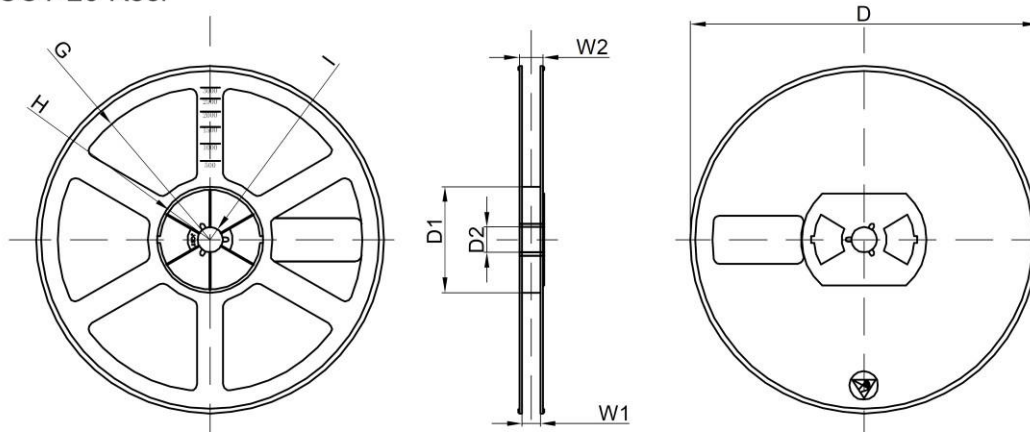


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

## 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	