



#### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
60V	0.9Ω@10V	115mA
	1.1Ω@5V	

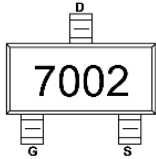
#### Feature

- High density cell design for Low  $R_{DS(on)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

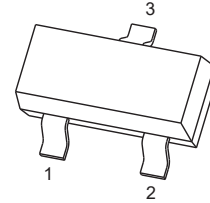
#### Application

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

#### MARKING:

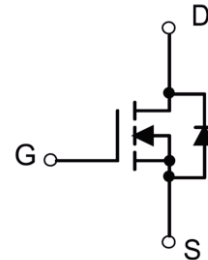


#### SOT-23



1. GATE
2. SOURCE
3. DRAIN

#### Schematic diagram



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

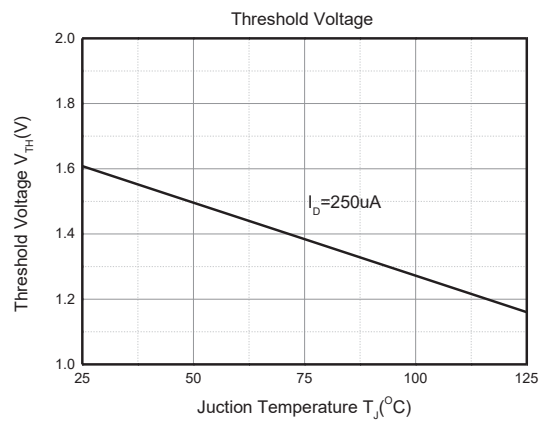
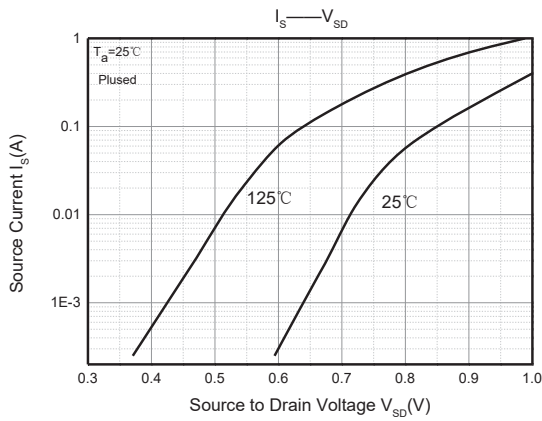
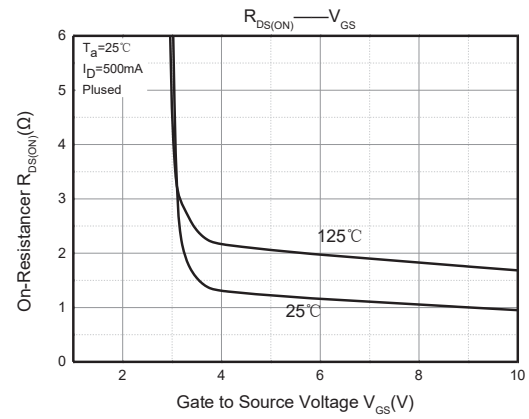
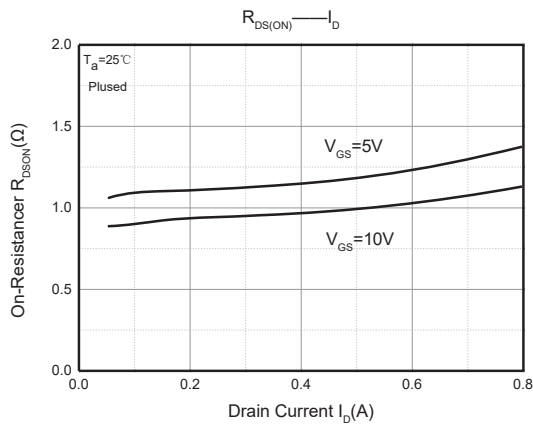
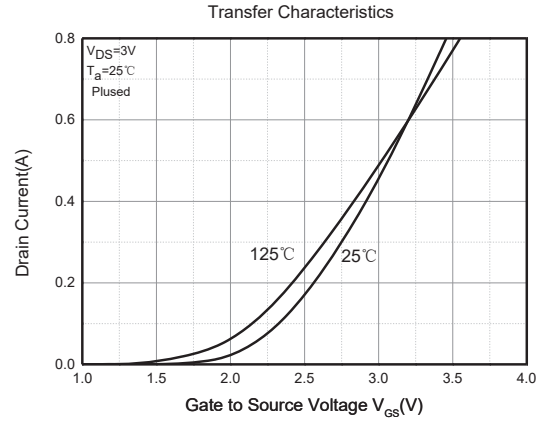
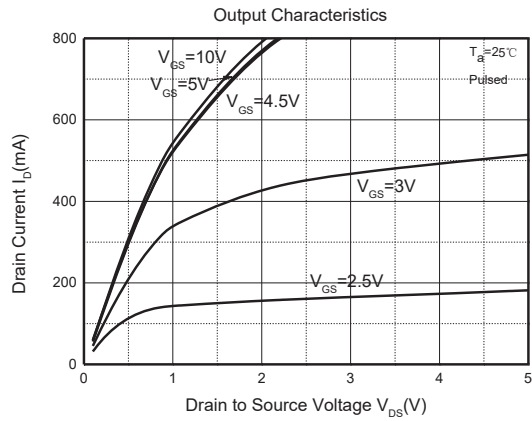
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	115	mA
Power Dissipation	$P_D$	0.225	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	556	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}C$

**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

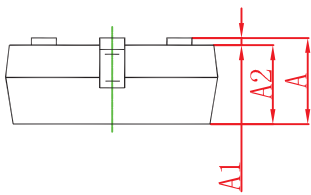
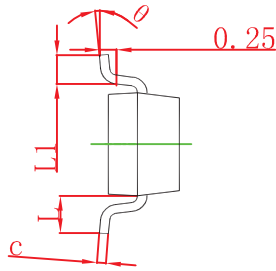
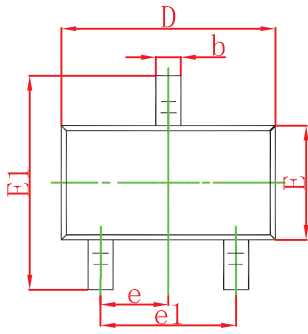
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> =250μA	60			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> = 0V			80	nA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> = 0V			±80	nA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	1	1.6	2.5	V
On-state drain current	I <sub>D(ON)</sub>	V <sub>GS</sub> =10V, V <sub>DS</sub> =7V	500			mA
Drain-source on-resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =500mA		0.9	2.5	Ω
		V <sub>GS</sub> =5V, I <sub>D</sub> =50mA		1.1	3	
On-state drain-source voltage	V <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =500mA			3.75	V
		V <sub>GS</sub> =5V, I <sub>D</sub> =50mA			0.375	
<b>Dynamic characteristics</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =25V, V <sub>GS</sub> =0V, f=1MHz		37	50	pF
Output Capacitance	C <sub>oss</sub>			8.7	25	
Reverse Transfer Capacitance	C <sub>rss</sub>			3.1	5	
Gate resistance	R <sub>g</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =0V, f =1MHz		44		Ω
<b>Switching Characteristics</b>						
Turn-on delay time <sup>*</sup>	t <sub>d(on)</sub>	V <sub>DD</sub> =25 V, R <sub>L</sub> =50Ω			20	ns
Turn-off delay time <sup>*</sup>	t <sub>d(off)</sub>	I <sub>D</sub> =500mA, V <sub>GEN</sub> =10 V, R <sub>G</sub> =25Ω			40	
<b>Source-Drain Diode characteristics</b>						
Diode Forward voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =115mA	0.55	0.78	1.2	V

\*These parameters have no way to verify.

**Typical Characteristics**



## SOT-23 Package Information

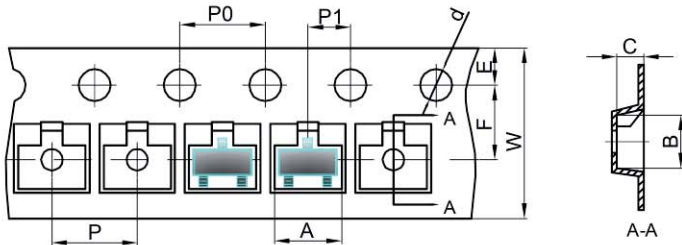


Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 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
$\theta$	0°	8°	0°	8°

SOT-23 Tape and Reel

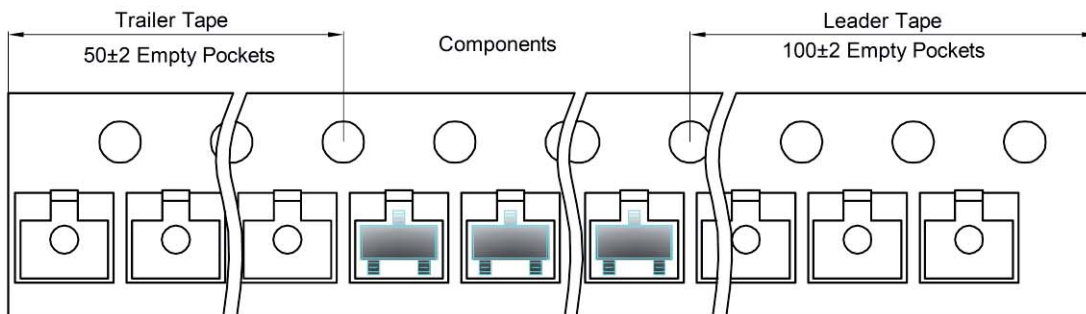
### SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

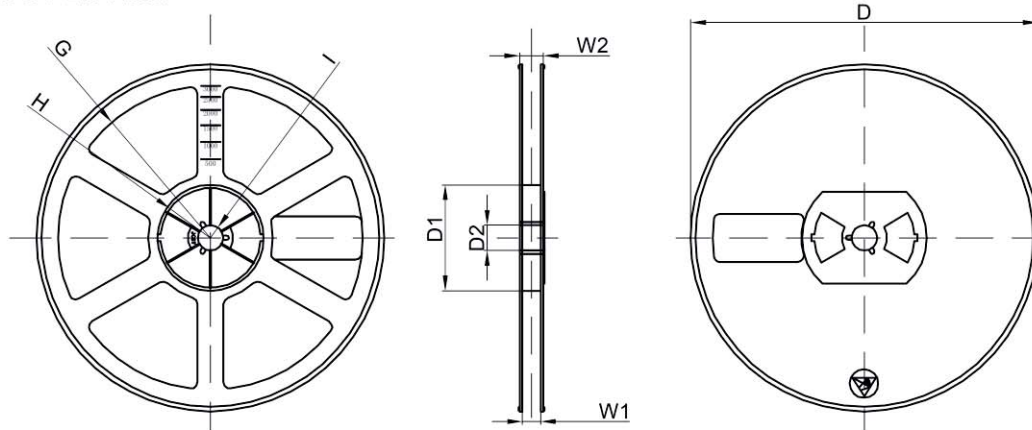


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

### 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	