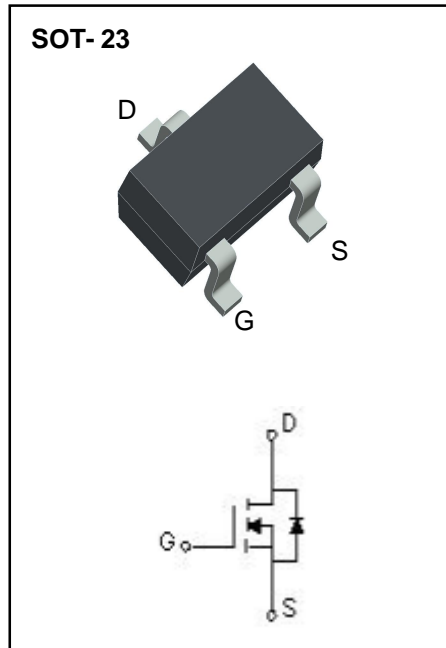


## SOT-23 Plastic-Encapsulate MOSFET

### N-Channel MOSFET

#### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
60V	5Ω@10V	115mA
	7Ω@5V	



#### Features

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

#### Applications

- Load Switch for Portable Devices
- DC/DC Converter

#### Marking:

- 7002

#### Limiting Values (Absolute Maximum Rating)

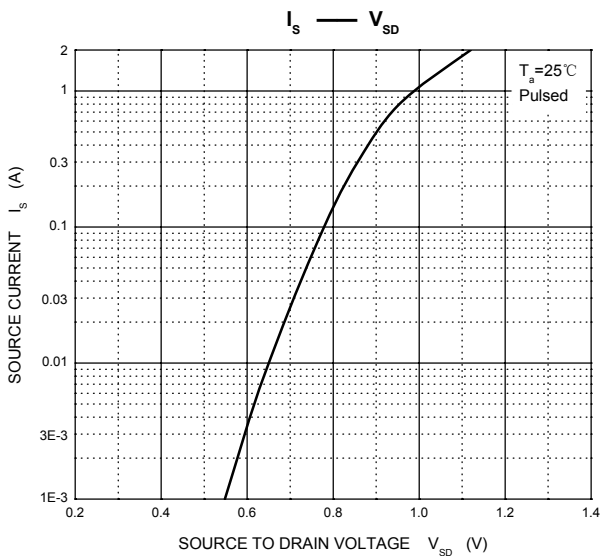
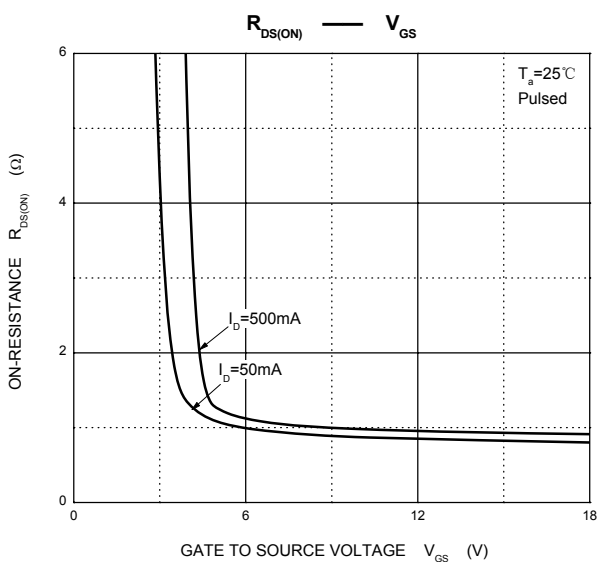
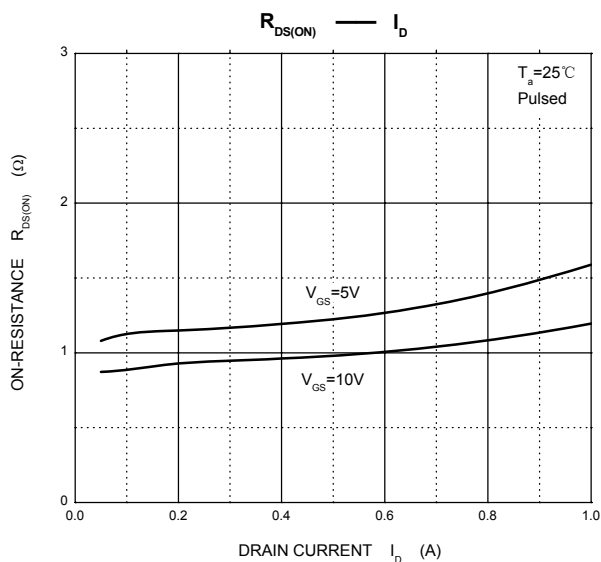
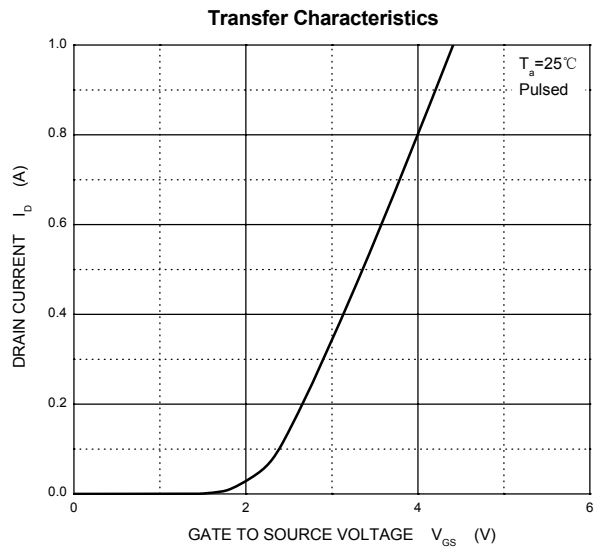
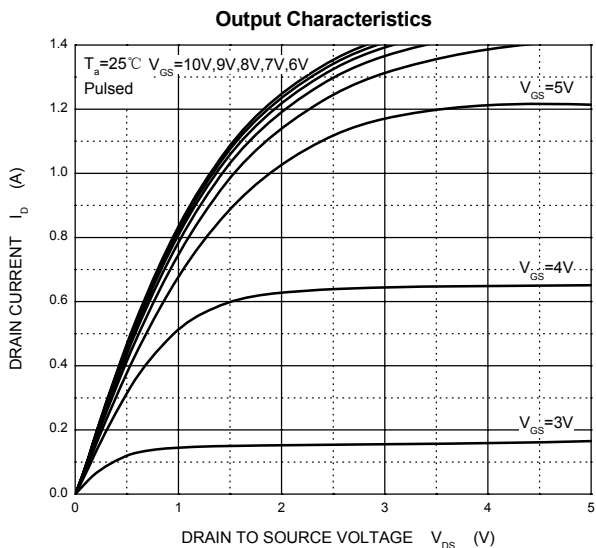
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	20	V
Continuous Drain Current	$I_D$	0.115	A
Power Dissipation	$P_D$	0.225	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{stg}$	-50 ~+150	

## Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

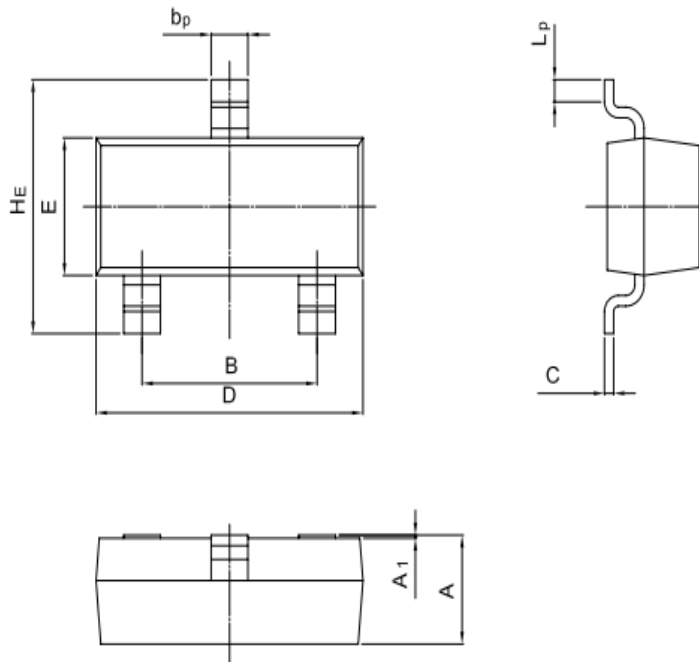
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{ V}, I_D=250\ \mu\text{A}$	60			V
Gate-Threshold Voltage	$V_{th(GS)}$	$V_{DS}=V_{GS}, I_D=250\ \mu\text{A}$	1	1.6	2.5	
Gate-body Leakage	$I_{GSS}$	$V_{DS}=0\text{ V}, V_{GS}=\pm 20\text{ V}$			$\pm 80$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60\text{ V}, V_{GS}=0\text{ V}$			80	nA
On-state Drain Current	$I_{D(ON)}$	$V_{GS}=10\text{ V}, V_{DS}=7\text{ V}$	500			mA
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{mA}$		0.9	5	$\Omega$
		$V_{GS}=5\text{ V}, I_D=50\text{mA}$		1.1	7	
Forward Trans conductance	$g_{fs}$	$V_{DS}=10\text{ V}, I_D=200\text{mA}$	80			ms
Drain-source on-voltage	$V_{DS(on)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$			3.75	V
		$V_{GS}=5\text{V}, I_D=50\text{mA}$			0.375	V
Diode Forward Voltage	$V_{SD}$	$I_S=115\text{mA}, V_{GS}=0\text{ V}$	0.55		1.2	V
Input Capacitance *	$C_{iss}$	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$			50	pF
Output Capacitance *	$C_{oss}$				25	
Reverse Transfer Capacitance *	$C_{rss}$				5	
Turn-on Time *	$t_{d(on)}$	$V_{DD}=25\text{ V}, R_L=50\Omega,$ $I_D=500\text{mA}, V_{GEN}=10\text{ V}$ $R_G=25\Omega$			20	ns
Turn-off Time *	$t_{d(off)}$				40	

\*These parameters have no way to verify.

# Typical Characteristics

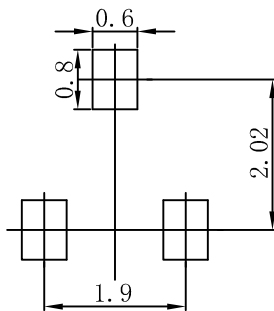


## SOT-23 Package Outline Dimensions



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20

## SOT-23 Suggested Pad Layout



**Note:**

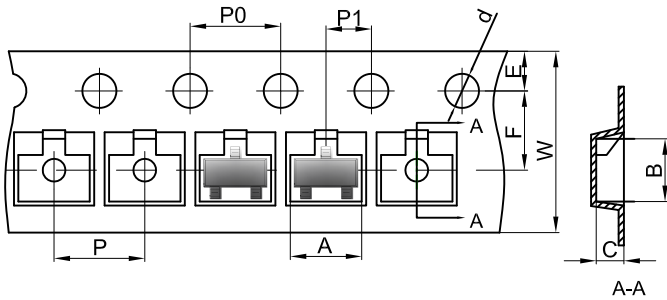
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

**NOTICE**

JSKD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSKD does not assume any liability arising out of the application or use of any product described herein.

# Reel Taping Specifications For Surface Mount Devices-SOT-23

## SOT-23 Embossed Carrier Tape



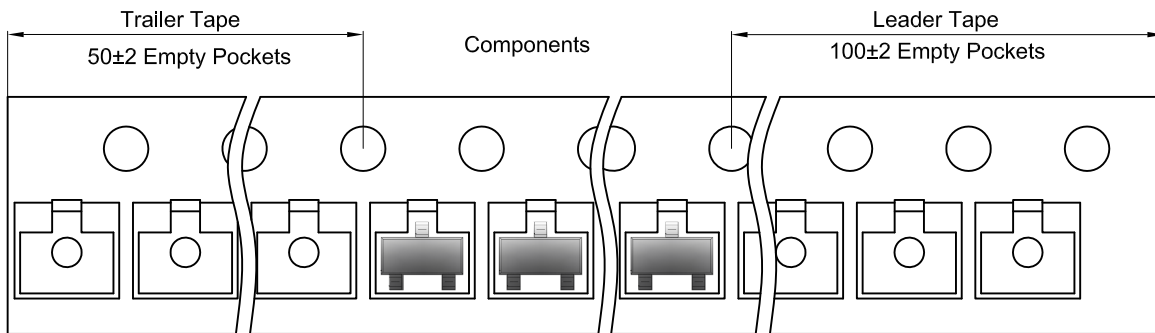
### Packaging Description:

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).

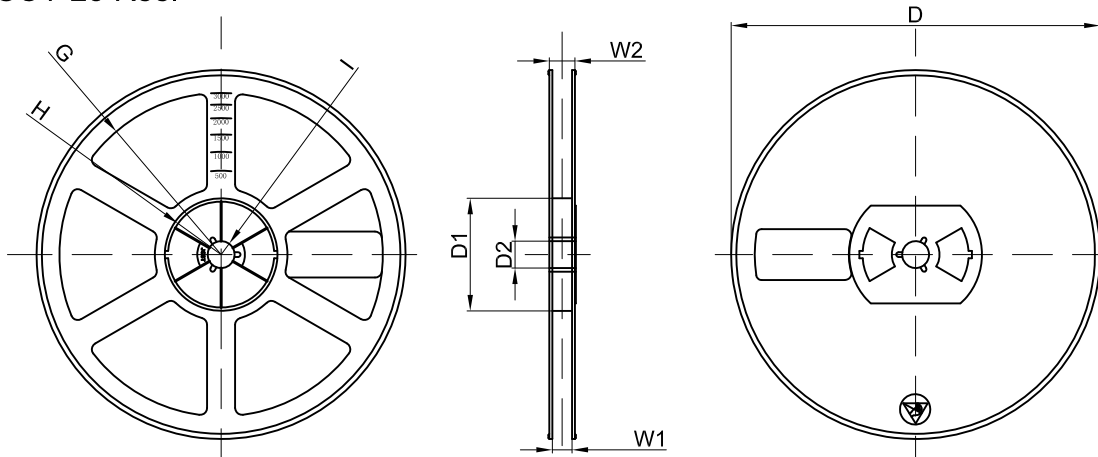
Dimensions are in millimeter

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	45,000 pcs	203×203×195	180,000 pcs	438×438×230	

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