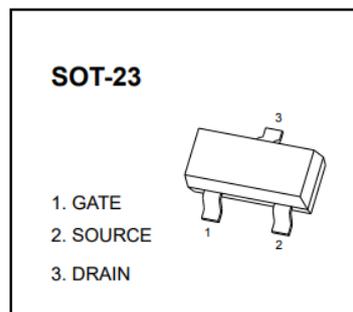




## AD-2SK3018 Plastic-Encapsulated MOSFET

### AD-2SK3018 N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on), Max}$	$I_D$
30V	8Ω @ 4V	100mA
	13Ω @ 2.5V	



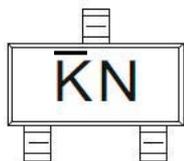
### FEATURES

- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for portable equipment
- Easily designed drive circuits
- Easy to parallel
- AEC-Q101 qualified

### APPLICATIONS

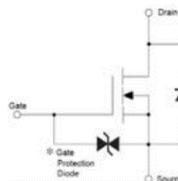
- Interfacing , Switching Load switch

### MARKING



KN = Device code

### EQUIVALENT CIRCUIT



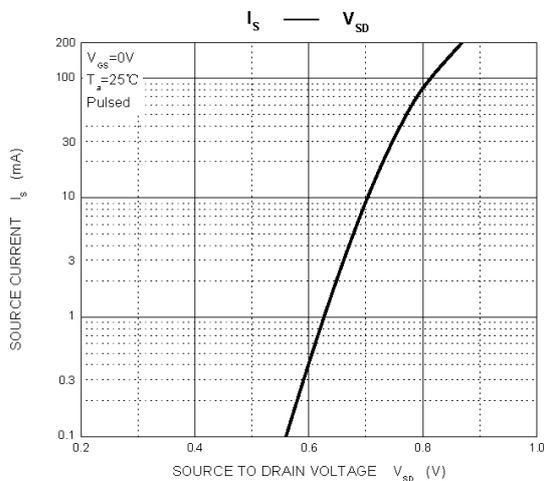
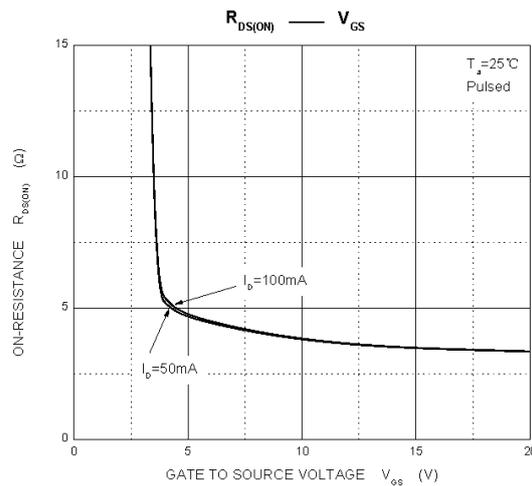
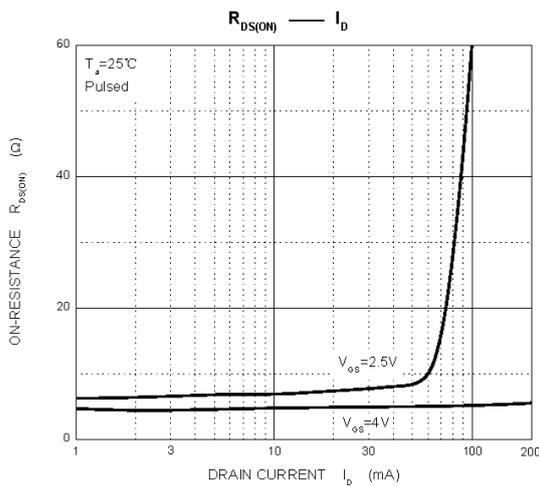
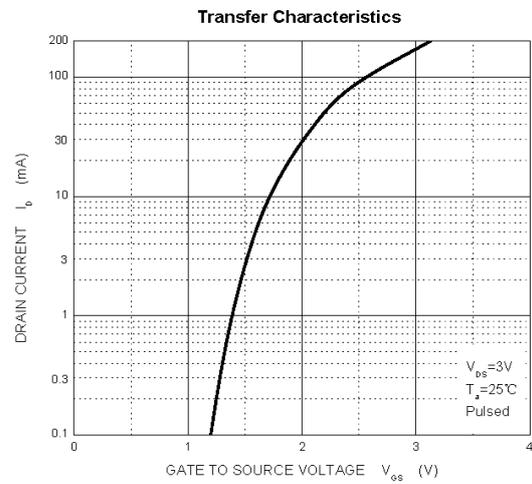
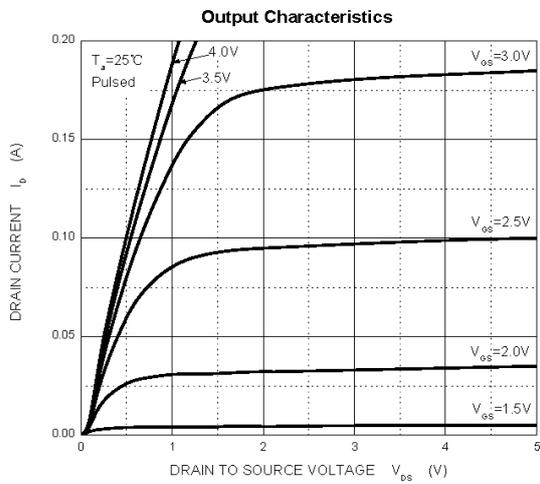
**MAXIMUM RATINGS (T<sub>j</sub> = 25°C unless otherwise specified)**

Parameter	Symbol	Value	Unit
Drain-source voltage	V <sub>DS</sub>	30	V
Gate-source voltage	V <sub>GS</sub>	±20	V
Continuous drain current	I <sub>D</sub>	0.1	A
Maximum power dissipation	P <sub>D</sub>	0.35	W
Thermal resistance from junction to ambient	R <sub>θJA</sub>	357	°C/W
Operating junction and storage temperature range	T <sub>j</sub> , T <sub>stg</sub>	-55 ~ 150	°C

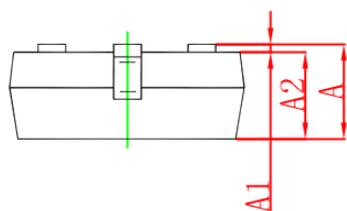
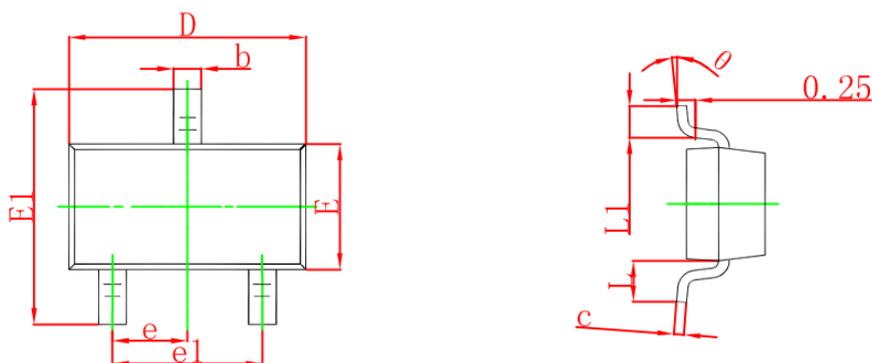
**ELECTRICAL CHARACTERISTICS (T<sub>j</sub> = 25°C unless otherwise specified)**

Parameter	Symbol	Test condition	Min	Typ	8	Unit
<b>Static characteristics</b>						
Drain-source breakdown voltage	V <sub>DS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 10μA	30	-	-	V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V	-	-	0.2	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V	-	-	±2	μA
Gate threshold voltage <sup>5)</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> = 3V, I <sub>D</sub> = 100μmA	0.8		1.5	V
Drain-source on-state resistance <sup>5)</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = 4V, I <sub>D</sub> = 10mA	-	5	8	Ω
		V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 1mA	-	8	13	
Forward Transconductance	G <sub>FS</sub>	V <sub>DS</sub> = 3V, I <sub>D</sub> = 10 mA	20			mS
<b>Dynamic characteristics <sup>5) 6)</sup></b>						
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 5V, V <sub>GS</sub> = 0V, f = 1MHz	-	13	-	pF
Output capacitance	C <sub>oss</sub>		-	9	-	
Reverse transfer capacitance	C <sub>rss</sub>		-	4	-	
<b>Switching parameters <sup>5) 6)</sup></b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> = 5V, V <sub>DD</sub> = 5V, I <sub>D</sub> = 10Ma. R <sub>g</sub> = 10Ω, R <sub>L</sub> = 500Ω	-	15	-	ns
Rise Time	t <sub>r</sub>			35	-	
Turn-off delay time	t <sub>d(off)</sub>		-	80	-	
Fall Time	t <sub>f</sub>			80	-	

# TYPICAL CHARACTERISTICS

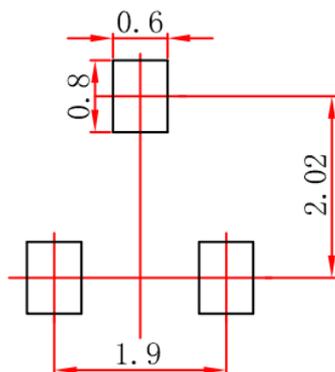


### SOT-23 PACKAGE OUTLINE DIMENSIONS



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 SUGGESTED PAD LAYOUT

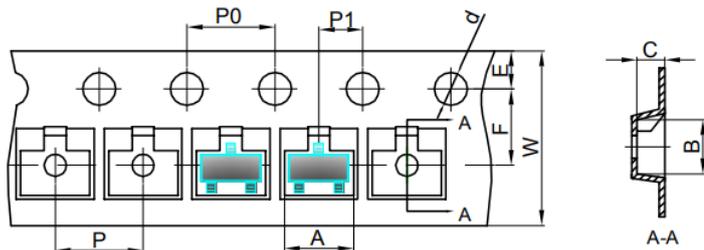


Note:

1. Controlling dimension in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purpose only.

# SOT-23 TAPE AND REEL

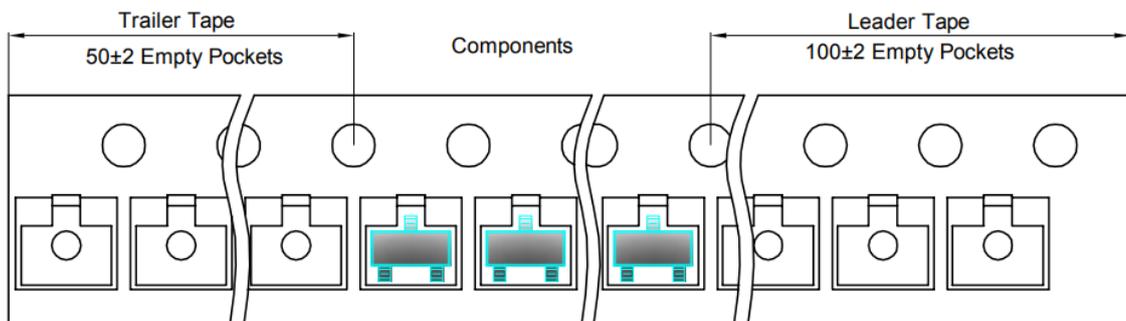
## SOT-23 Embossed Carrier Tape



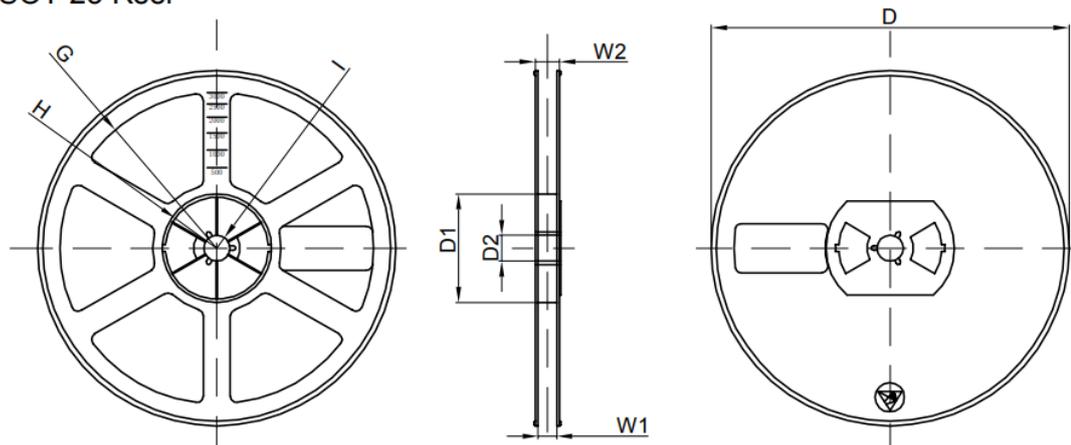
**Packaging Description:**  
 SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed 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	

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