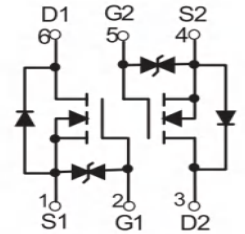




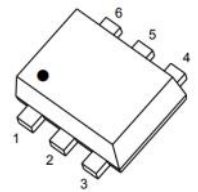
### 2SK3018KV Plastic-Encapsulate MOSFETS

#### FEATURES

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



#### Marking: KN



#### MOSFET MAXIMUM RATINGS (T<sub>a</sub> = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V <sub>DS</sub>	Drain-Source Voltage	30	V
V <sub>GSS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Continuous Drain Current	0.1	A
P <sub>D</sub>	Power Dissipation	0.35	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C
R <sub>θJA</sub>	Thermal Resistance, Junction-to-Ambient	357	°C /W

**SOT563**

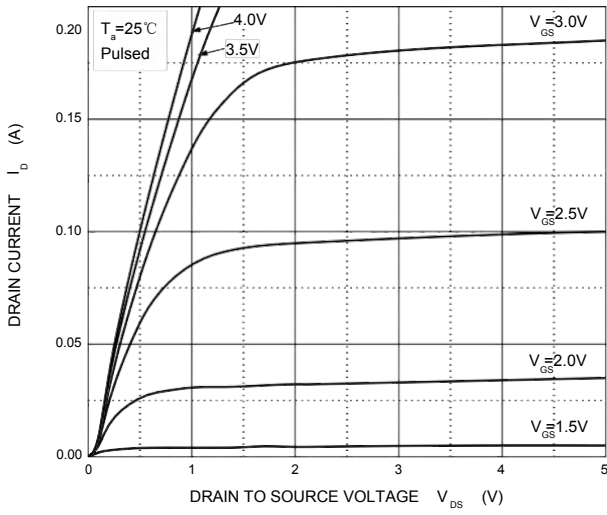
#### MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
<b>Off 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 -Source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			± 2	μA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = 3V, I <sub>D</sub> = 100μA	0.8		1.5	V
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = 4V, I <sub>D</sub> = 10mA			8	Ω
		V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 1mA			13	Ω
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> = 3V, I <sub>D</sub> = 10mA	20			mS
<b>Dynamic Characteristics*</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		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			4		pF
<b>Switching Characteristics*</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		ns
Turn-Off Delay Time	t <sub>d(off)</sub>			80		ns
Fall Time	t <sub>f</sub>			80		ns

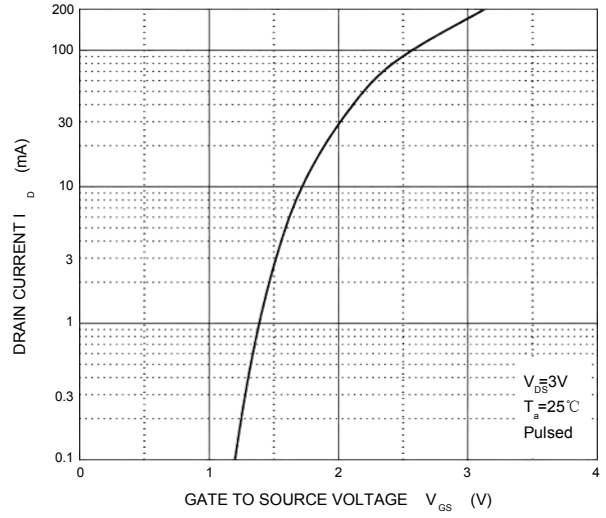


## Typical Characteristics

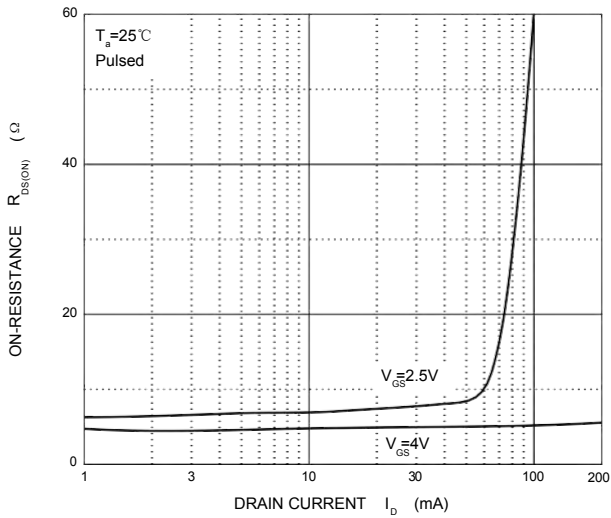
### Output Characteristics



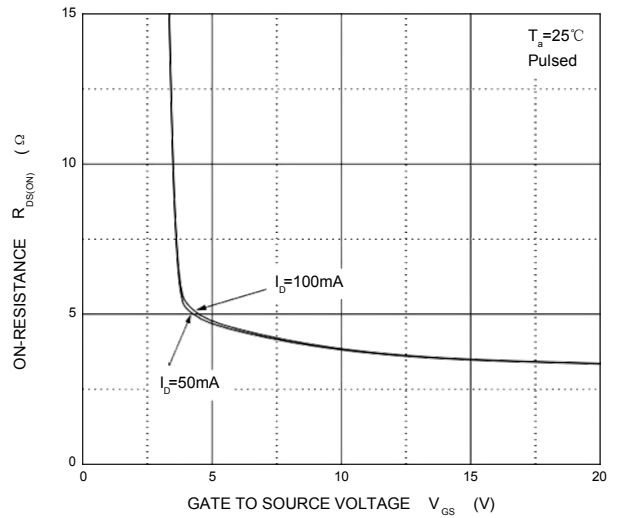
### Transfer Characteristics



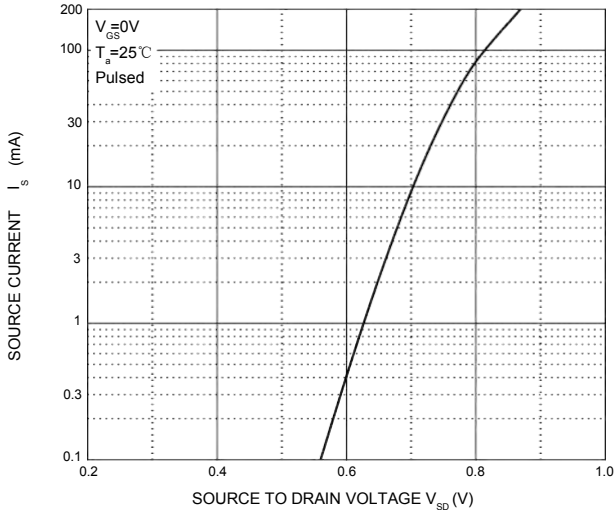
### $R_{DS(ON)}$ — $I_D$



### $R_{DS(ON)}$ — $V_{GS}$

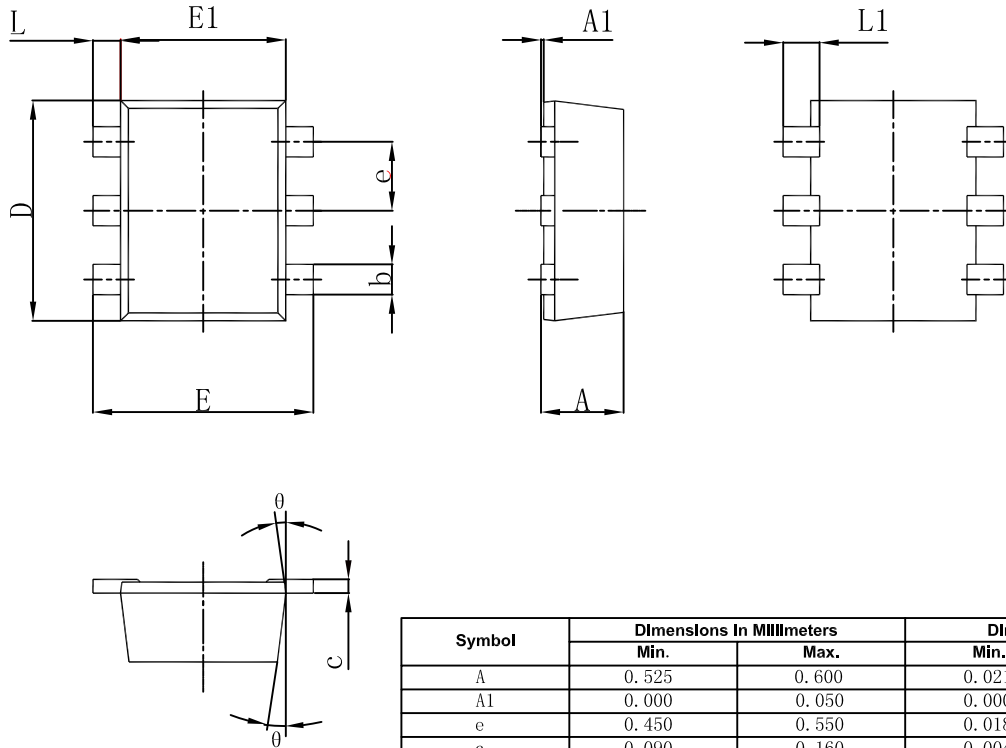


### $I_S$ — $V_{SD}$



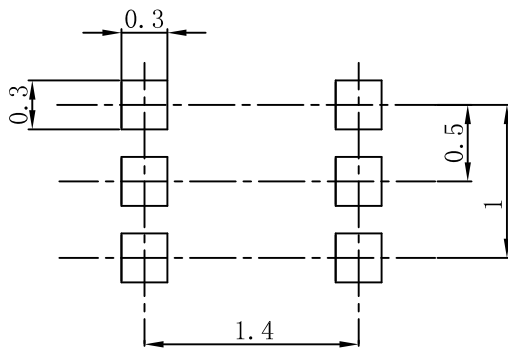


### SOT-563 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.525	0.600	0.021	0.024
A1	0.000	0.050	0.000	0.002
e	0.450	0.550	0.018	0.022
c	0.090	0.160	0.004	0.006
D	1.500	1.700	0.059	0.067
b	0.170	0.270	0.007	0.011
E1	1.100	1.300	0.043	0.051
E	1.500	1.700	0.059	0.067
L	0.100	0.300	0.004	0.012
L1	0.200	0.400	0.008	0.016
$\theta$	7 °REF.		7 °REF.	

### SOT-563 Suggested Pad Layout

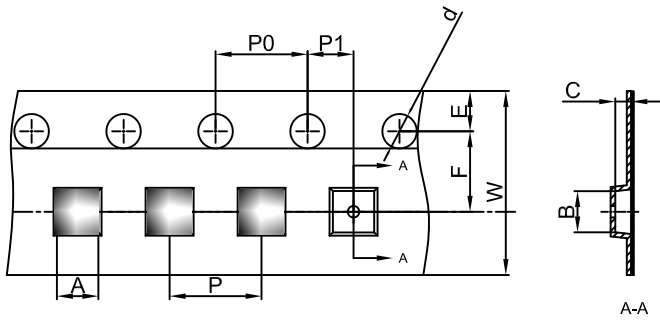


**Note:**

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



### SOT-563 Embossed Carrier Tape



**Packaging Description:**  
 SOT-563 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-563	1.78	1.78	0.69	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

### SOT-563 Tape Leader and Trailer

