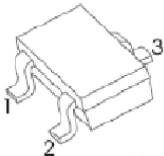
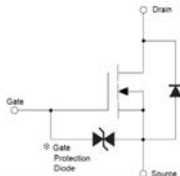


N-channel MOSFET		SOT-323 Plastic-Encapsulate MOSFETS								
SOT-323  1. GATE 2. SOURCE 3. DRAIN Marking :KN		Features - Low on-resistance - Fast switching speed - Low voltage drive makes this device ideal for Portable equipment - Easily designed drive circuits - Easy to parallel Application - Interfacing , Switching								
<table><tr><th>$V_{(BR)DSS}$</th><th>$R_{DS(on)MAX}$</th><th>I_D</th></tr><tr><td rowspan="2">30 V</td><td>8Ω@4V</td><td rowspan="2">100mA</td></tr><tr><td>13Ω@2.5V</td></tr></table>		$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D	30 V	8Ω@4V	100mA	13Ω@2.5V	Equivalent Circuit 	
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D								
30 V	8Ω@4V	100mA								
	13Ω@2.5V									
MOSFET MAXIMUM RATINGS (T _a = 25°C unless otherwise noted)										
Symbol	Parameter	Value	Unit							
V _{DS}	Drain-Source voltage	30	V							
V _{GS}	Gate-Source Voltage	±20	V							
I _D	Continuous Drain Current	0.1	A							
P _D	Power Dissipation	0.2	W							
T _J ,T _{stg}	Operation Junction and Storage Temperature Range	-55-150	°C							
R _{θJA}	Thermal Resistance from Junction to Ambient	625	°C /W							

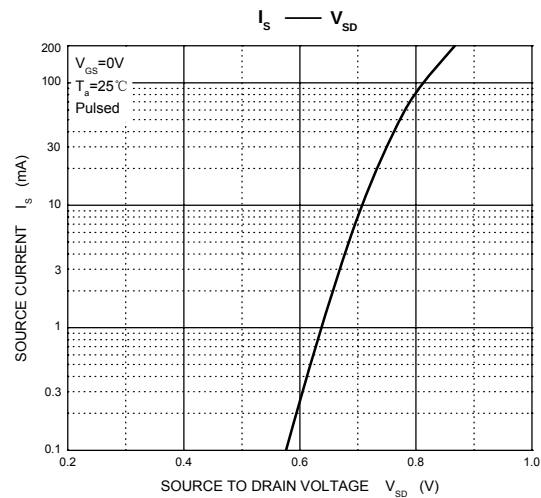
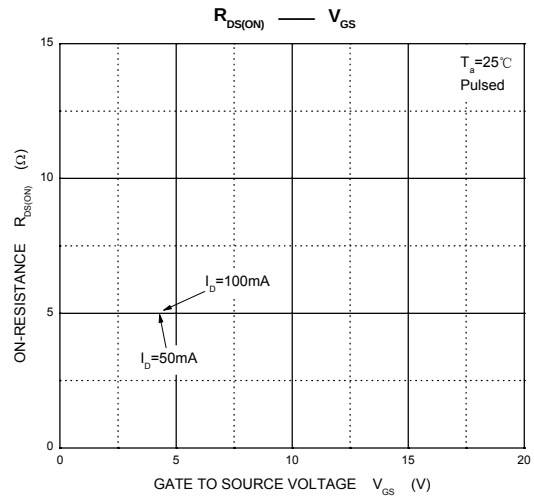
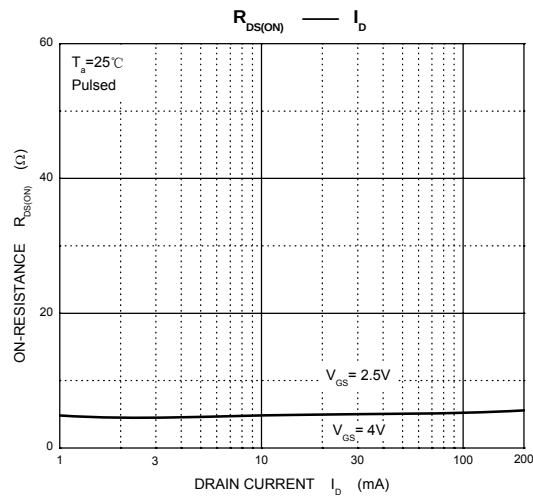
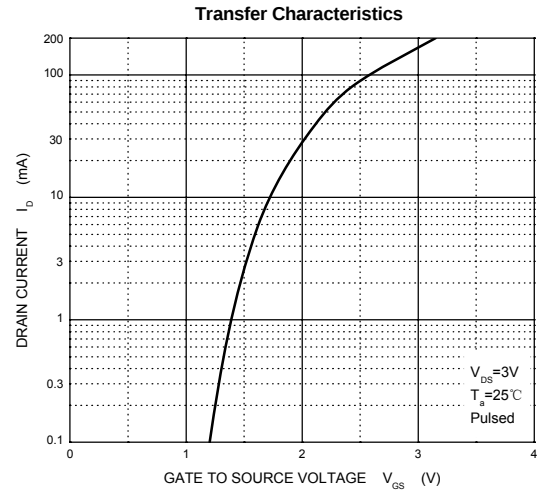
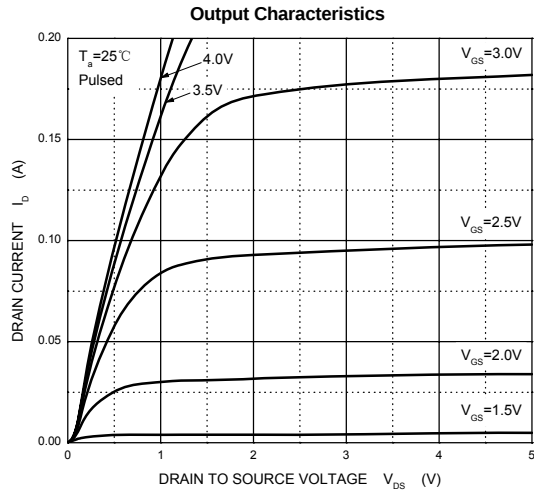
MOSFET ELECTRICAL CHARACTERISTICS

$T_a = 25^\circ\text{C}$ unless otherwise specified

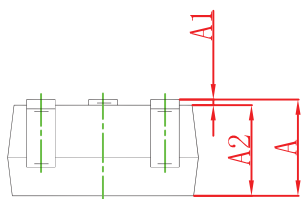
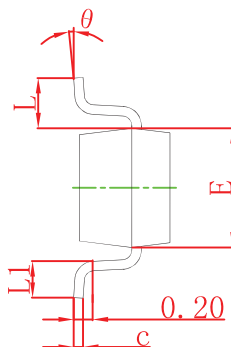
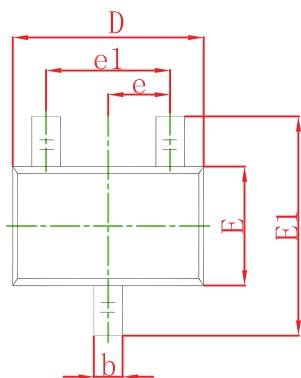
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 10μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V,V _{GS} = 0V			0.2	μA
Gate –Source leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±2	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = 3V, I _D =100μA	0.8		1.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 4V, I _D =10mA		5	8	Ω
		V _{GS} =2.5V,I _D =1mA		8	13	Ω
Forward Transconductance	g _{FS}	V _{DS} =3V, I _D = 10mA	20			mS
Dynamic Characteristics*						
Input Capacitance	C _{iss}	V _{DS} =5V,V _{GS} =0V,f =1MHz		13		pF
Output Capacitance	C _{oss}			9		pF
Reverse Transfer Capacitance	C _{rss}			4		pF
Switching Characteristics*						
Turn-On Delay Time	t _{d(on)}	V _{GS} =5V, V _{DD} =5V, I _D =10mA, R _g =10Ω, R _L =500Ω		15		ns
Rise Time	t _r			35		ns
Turn-Off Delay Time	t _{d(off)}			80		ns
Fall Time	t _f			80		ns

*These parameters have no way to verify.

Typical Characteristics

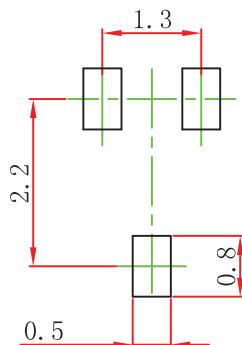


SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-323 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.