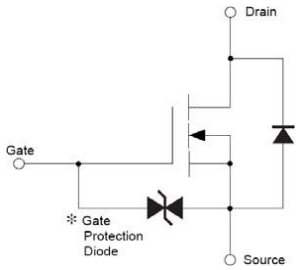
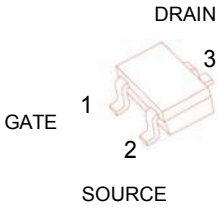
Plastic-Encapsulate MOSFETS

FEATURES

Low on-resistance
Fast switching speed
Low voltage drive makes this device ideal for portable equipment
Easily designed drive circuits
Easy to parallel
N-Channel 30-V(D-S) MOSFET





SOT-323

MOSFET MAXIMUM RATINGS (T_a = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source voltage	30	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	0.1	A
P_D	Power Dissipation	0.2	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	℃ /W

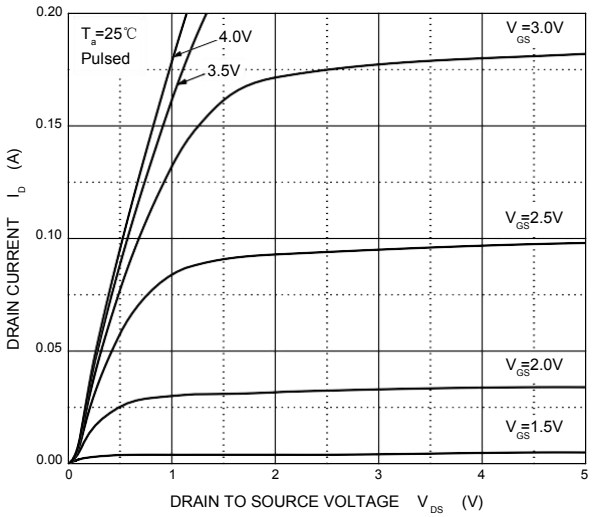
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

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	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = 3V, I_D =100μA	0.8		2.0	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 4V, I_D =10mA			8	Ω
		V_{GS} =2.5V,I_D =1mA			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, Rg=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

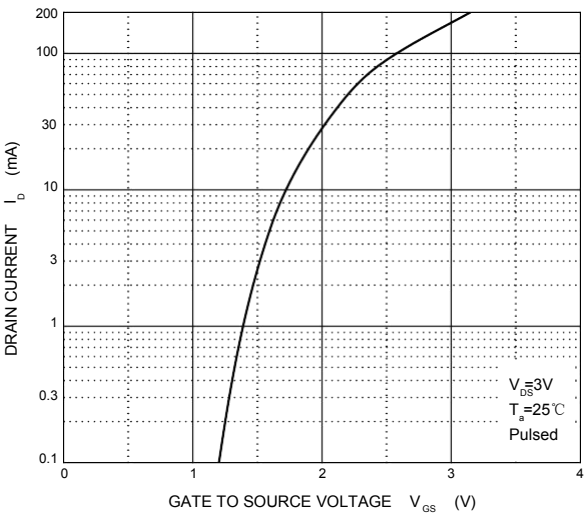
*These parameters have no way to verify

Typical Characteristics

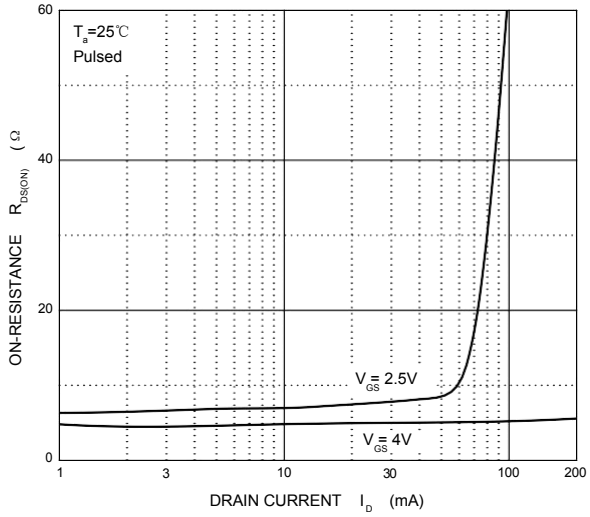
Output Characteristics



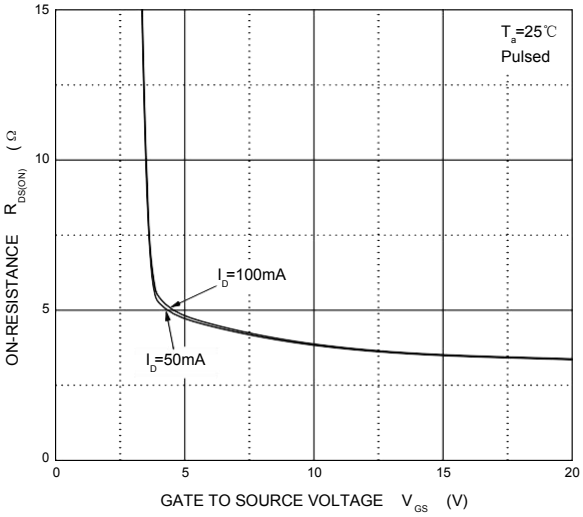
Transfer Characteristics



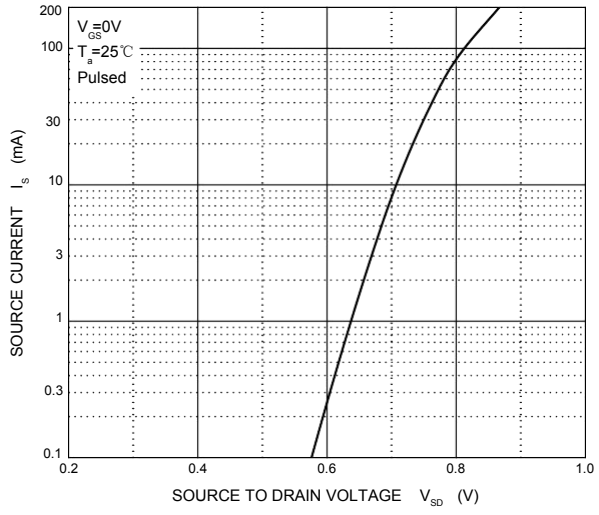
R DS(ON) —— I D



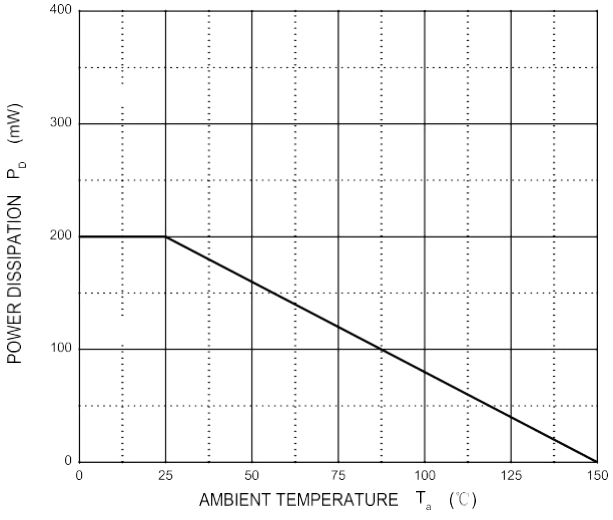
R DS(ON) —— V GS



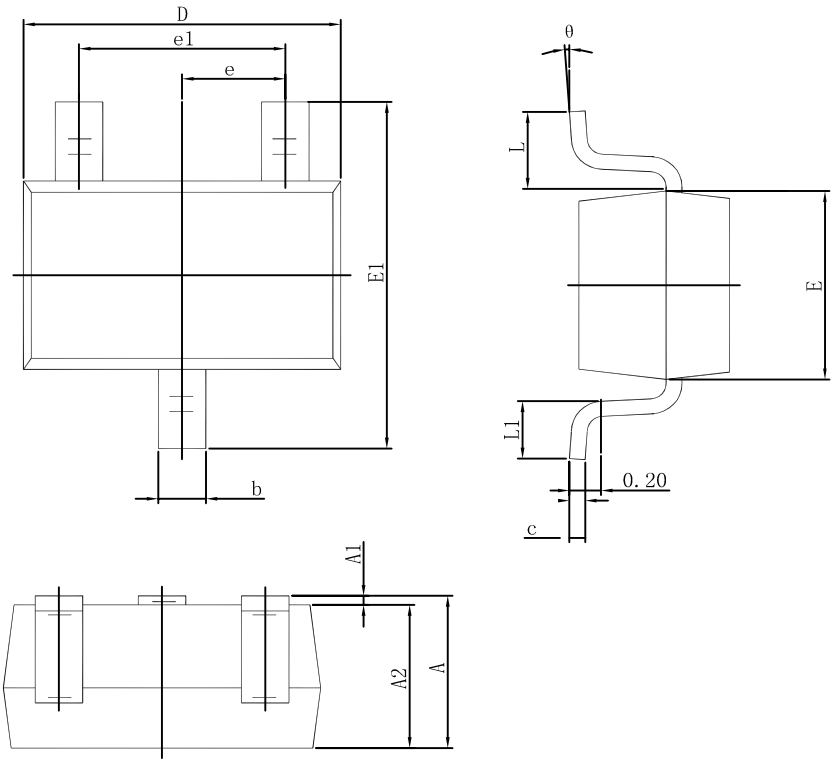
I S —— V SD



P D —— T a



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

