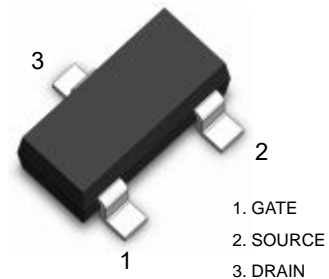


Dimensions SOT-23

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	2 $\Omega@10V$	400mA
	3 $\Omega@5V$	

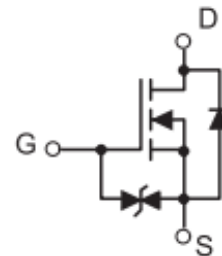


1. GATE
2. SOURCE
3. DRAIN

APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

Pin Configuration



FEATURE

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

Package Marking and Ordering Information

Device	Device Marking	Device Package	Reel Size	Tape width	Quantity
LM4003	J1	SOT-23	Ø180mm	8 mm	3000 units

Absolute Maximum Ratings (TC=25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	400	mA
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_J=25°C, unless otherwise noted)

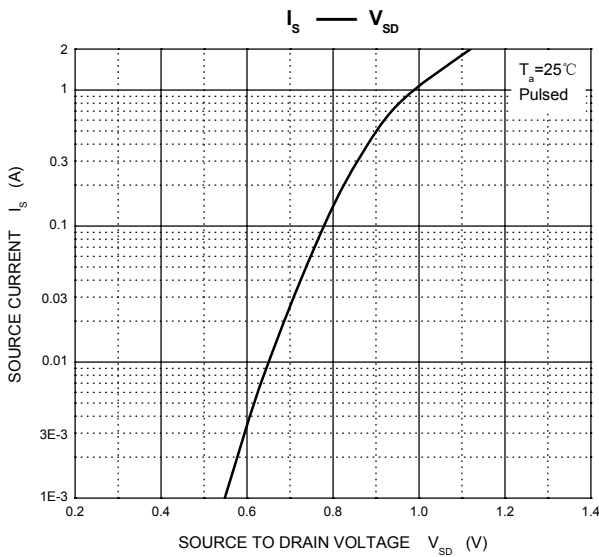
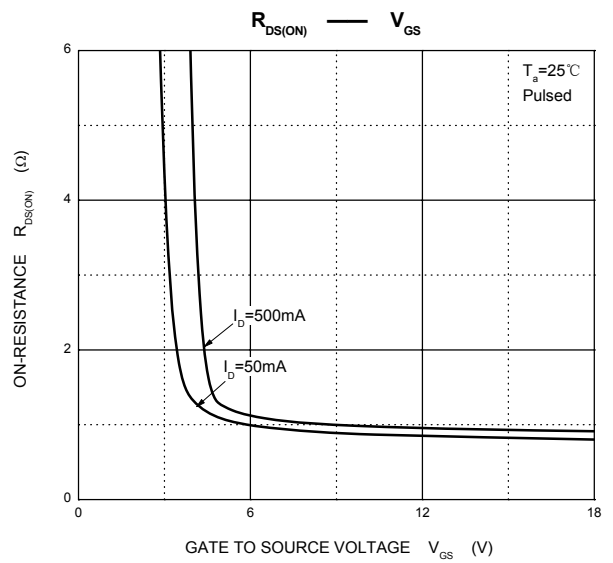
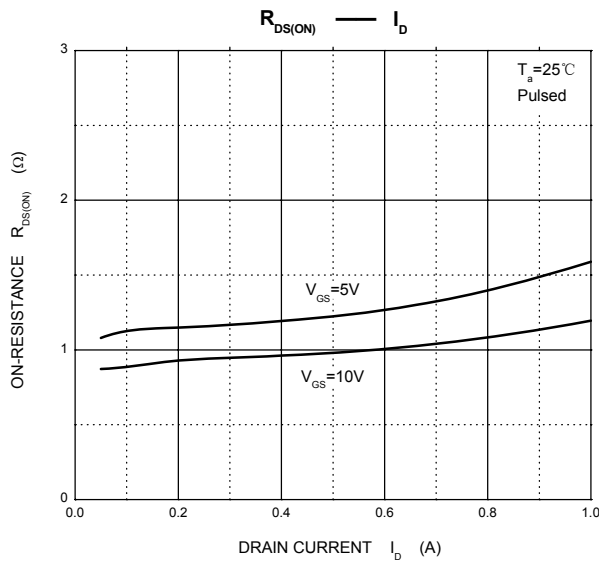
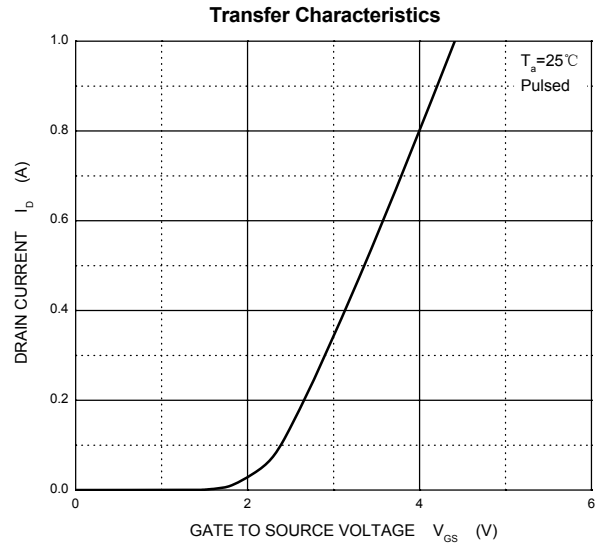
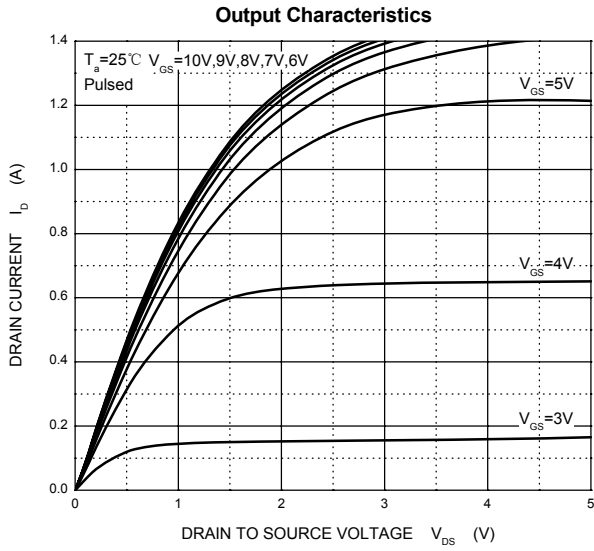
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0 V, I _D =250 μA	30			V
Gate-Threshold Voltage	V _{th(GS)}	V _{DS} =V _{GS} , I _D =250 μA	0.8		1.5	
Gate-body Leakage	I _{GSS}	V _{DS} =0 V, V _{GS} =±20 V			±80	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60 V, V _{GS} =0 V			80	nA
On-state Drain Current	I _{D(ON)}	V _{GS} =10 V, V _{DS} =7 V	500			mA
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10 V, I _D =500mA		1.5	2	Ω
		V _{GS} =5 V, I _D =50mA		2	3	
Forward Trans conductance	g _{fs}	V _{DS} =10 V, I _D =200mA	80			ms
Drain-source on-voltage	V _{DS(on)}	V _{GS} =10V, I _D =500mA			3.75	V
		V _{GS} =5V, I _D =50mA			0.375	V
Diode Forward Voltage	V _{SD}	I _S =100mA, V _{GS} =0 V	0.55		1.2	V
Input Capacitance *	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz			50	pF
Output Capacitance *	C _{oss}				25	
Reverse Transfer Capacitance *	C _{rss}				5	

SWITCHING TIME

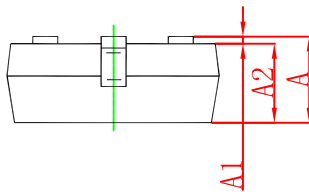
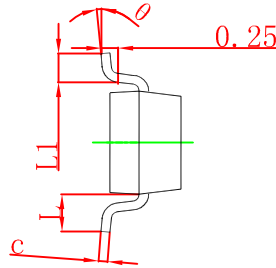
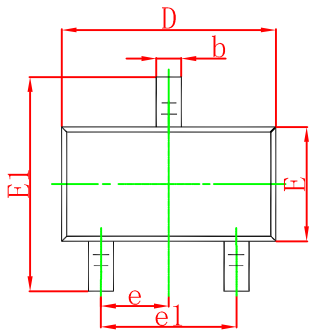
Turn-on Time *	t _{d(on)}	V _{DD} =25 V, R _L =50Ω, I _D =500mA, V _{GEN} =10 V			20	ns
Turn-off Time *	t _{d(off)}		R _G =25Ω			

*These parameters have no way to verify.

Typical Characteristics

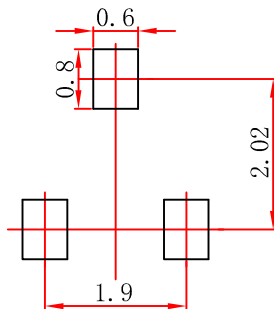


SOT-23 Package Outline Dimensions



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: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.