

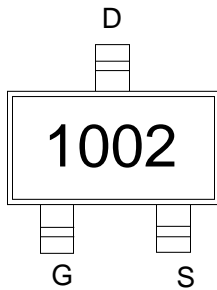


Features

- Trench Power MV MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$

Application

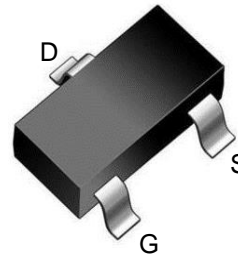
- DC-DC Converters
- Power management functions



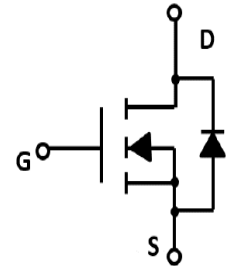
Marking and pin assignment

100V/3A N-Channel MOSFET
Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
100V	280mΩ@10V	3A
	310mΩ@4.5V	



SOT-23 top view



Schematic diagram

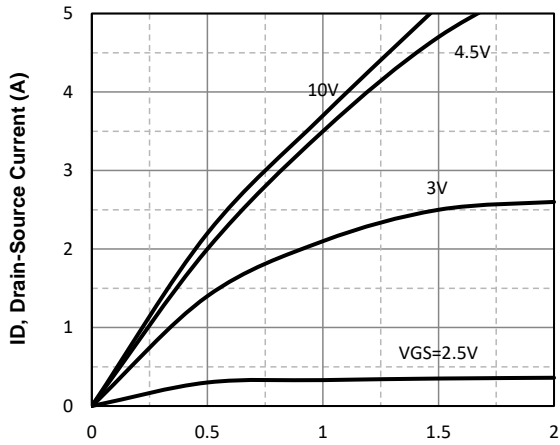
Absolute Maximum Ratings (TA=25°C unless otherwise noted)				
Symbol	Parameter	Rating	Unit	
Common Ratings (TC=25°C Unless Otherwise Noted)				
V_{DS}	Drain-Source Breakdown Voltage	100	V	
V_{GS}	Gate-Source Voltage	±20	V	
T_J	Maximum Junction Temperature	150	°C	
T_{STG}	Storage Temperature Range	-50 to 155	°C	
I_S	Diode Continuous Forward Current	$T_c=25^\circ\text{C}$	3	A
Mounted on Large Heat Sink				
I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$	9	A
I_D	Continuous Drain Current@GS=10V	$T_c=25^\circ\text{C}$	3	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$	1.3	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient>(*1 in2 Pad of 2-oz Copper), Max.)		96	°C/W



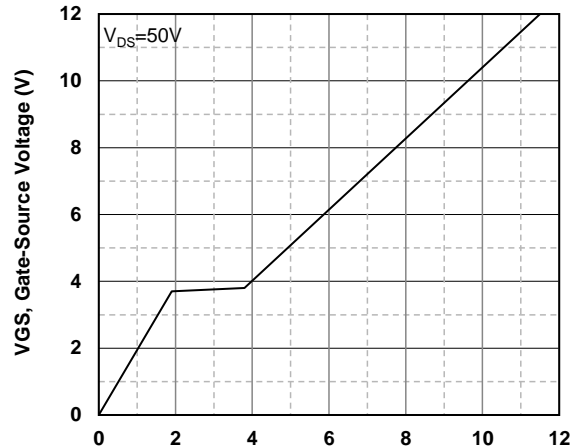
Electrical Characteristics (T_J=25°C unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
B _{V(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	100	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =100V, V _{GS} =0V	--	--	1.0	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	1.0	1.8	2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =3A	--	250	280	mΩ
		V _{GS} =4.5V, I _D =1A	--	280	310	mΩ
Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	--	387	--	pF
C _{OSS}	Output Capacitance		--	30	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	28	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =50V, I _D =3A, V _{GS} =10V	--	9.5	--	nC
Q _{gs}	Gate Source Charge		--	1.8	--	nC
Q _{gd}	Gate Drain Charge		--	2	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DS} =50V, I _D =1.3A, V _{GS} =10V, R _G =1Ω	--	4	--	nS
t _r	Turn-on Rise Time		--	17.5	--	nS
t _{d(off)}	Turn-Off Delay Time		--	13	--	nS
t _f	Turn-Off Fall Time		--	28	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25°C, I _S =3A,	--	--	1.2	V



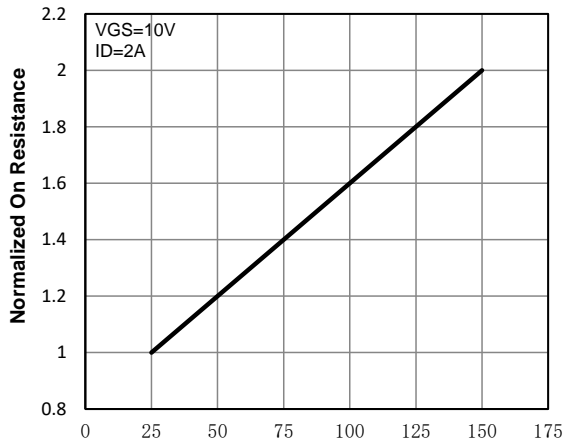
Typical Operating Characteristics



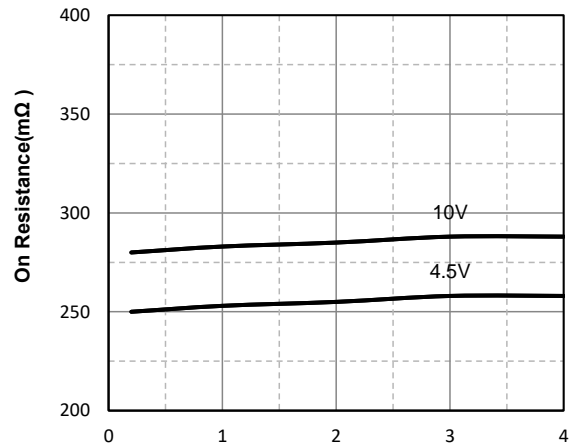
V_{DS}, Drain -Source Voltage (V)
Fig1. Typical Output Characteristics



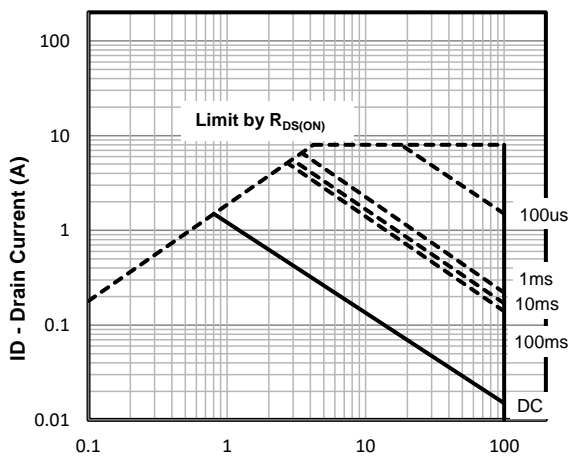
Q_g -Total Gate Charge (nC)
Fig2. Typical Gate Charge Vs. Gate-Source Voltage



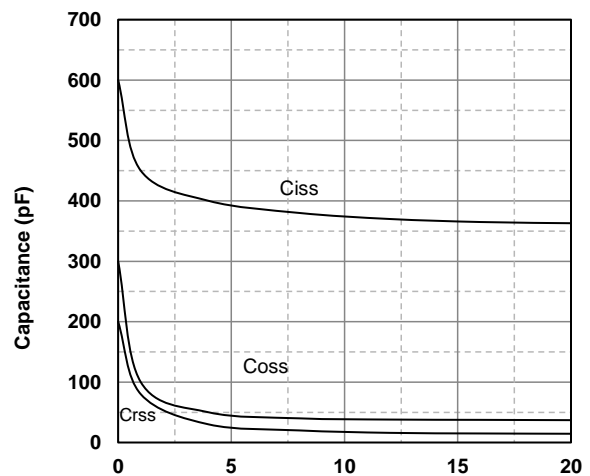
T_j - Junction Temperature (°C)
Fig3. Normalized On-Resistance Vs. Temperature



ID, Drain-Source Current (A)
Fig4. On-Resistance Vs. Drain-Source Current



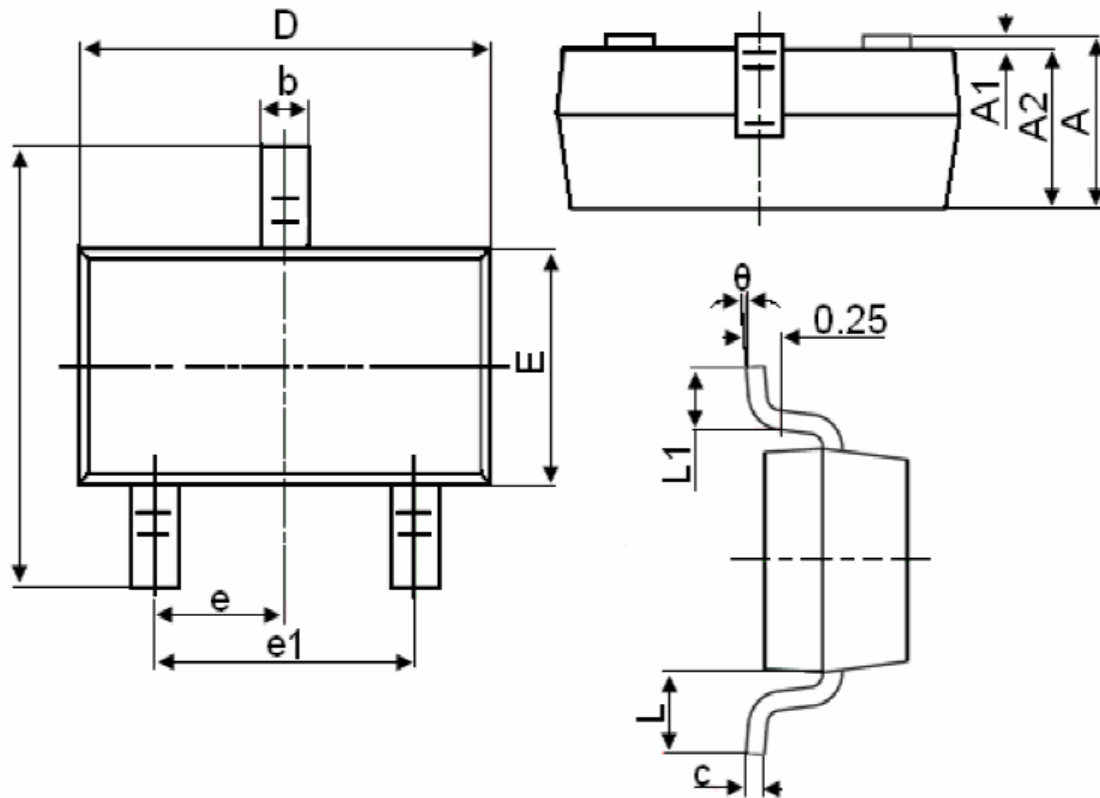
V_{DS}, Drain -Source Voltage (V)
Fig5. Maximum Safe Operating Area



V_{DS}, Drain-Source Voltage (V)
Fig6. Typical Capacitance Vs. Drain-Source Voltage



SOT-23 Package information



Symbol	Dimensions in Millimeters(mm)		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	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°