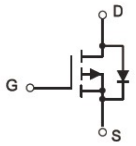
DAM004P002E1

SOT-23 Plastic-Encapsulate MOSFET

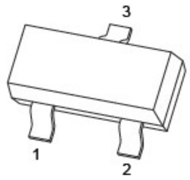
V(BR)DSS	RDS(ON)MAX	ID
-20V	112mΩ@-4.5V	-2.3A
	160mΩ@-2.5V	

SOT-23

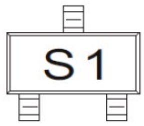
Equivalent Circuit



1. GATE
2. SOURCE
3. DRAIN



MARKING



Features

- Trench FET Power MOSFET
- Load Switch for Portable Devices.
- DC/DC Converter.

Mechanical Data

- SOT-23 Small Outline Plastic Package.
- Epoxy UL: 94V-0.
- Mounting Position: Any.

Maximum Ratings & Thermal Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Drain-Source Voltage	VDS	-20	V
Gate-Source Voltage	VGS	±8	V
Continuous Drain Current	ID	-2.3	A
Pulsed Drain Current	IDM	-10	
Continuous Source-Drain Diode Current	IS	-0.72	
Power Dissipation	PD	400	mW
Junction Temperature	Tj	150	℃
Storage Temperature	Tstg	-50-+150	℃
Thermal Resistance From Junction to Ambient	RθJA	312.5	℃/W

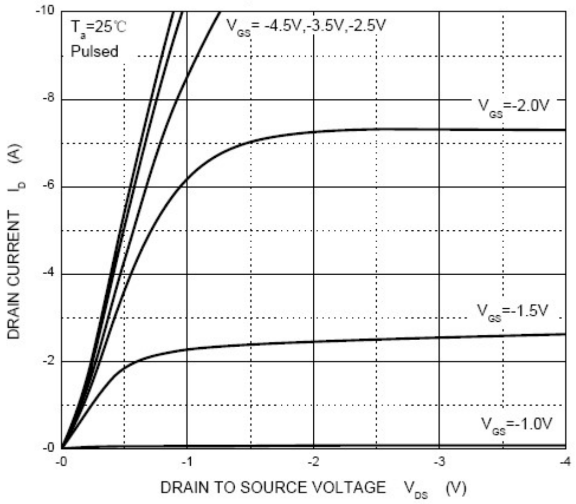
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	Limits Min	Limits Typ	Limits Max	Unit
Static						
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V, ID=-250uA	-20			V
Gate-Threshold voltage	VGS (th)	VDS=VGS, ID=-250uA	-0.4	-0.7	-1.0	V
Gate-body Leakage	IGSS	VDS=0V, VGS=±8V			±100	nA
Zero Gate Voltage Drain current	IDSS	VDS=-20V, VGS=0V			-1	uA
Drain-Source On-Resistance(a)	RDS(ON)	VGS=-4.5V, ID=-2.8A		90	112	mΩ
		VGS=-2.5V, ID=-2A		140	160	
Forward trans conductance(a)	gfs	VDS=-5V, ID=-2.8A		6.5		S
Dynamic(b)						
Input capacitance	Ciss	VDS=-10V, VGS=0V,f=1MHz			405	pF
Output capacitance	Coss				75	
Reverse Transfer capacitance	Crss				55	
Total gate charge	Qg	VDS=-10V, VGS=-4.5V,ID=-3A		5.5	10	nC
		VDS=-10V, VGS=-2.5V,ID=-3A		3.3	6	
Gate-source charge	Qgs			0.7		
Gate-drain charge	Qgd			1.3		
Gate resistance	Rg	F=1MHz		6.0		Ω
Turn-on Time	td(on)	VDD=-10V, RL=10Ω, VGEN=-4.5V, ID=-1A, RG=1Ω		11	20	ns
Rise time	tr			35	60	
Turn-off Time	td(off)			30	50	
Fall time	tf			10	20	
Drain-source body diode characteristics						
Continuous source-drain diode current	IS	Tc=25℃			-3	A
Pulse diode forward current (a)	ISM				-10	
Body diode voltage	VSD	IS=-0.7A,		-0.8	-1.2	V

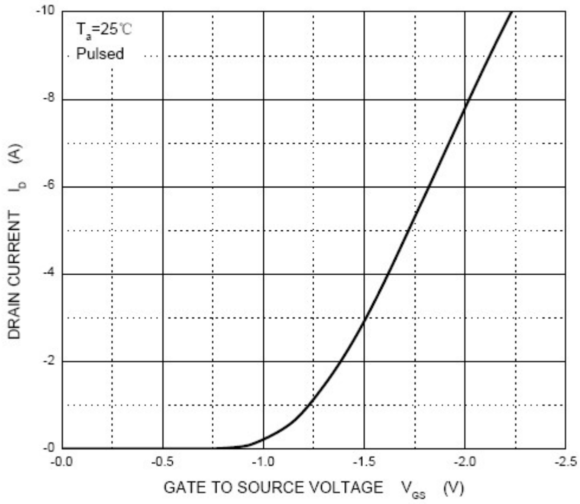
Notes: a. Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%.

Typical characteristics

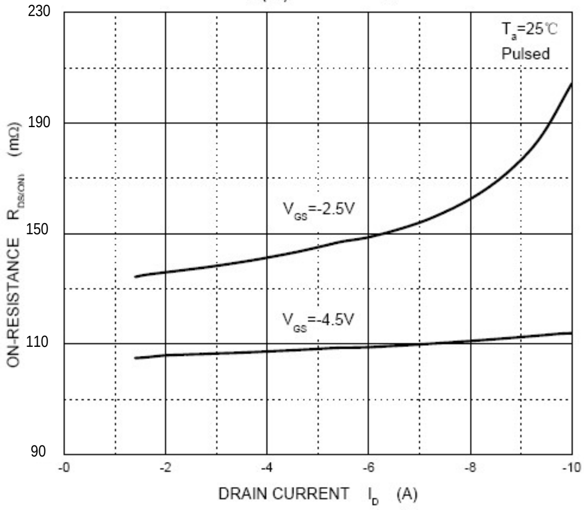
Output Characteristics



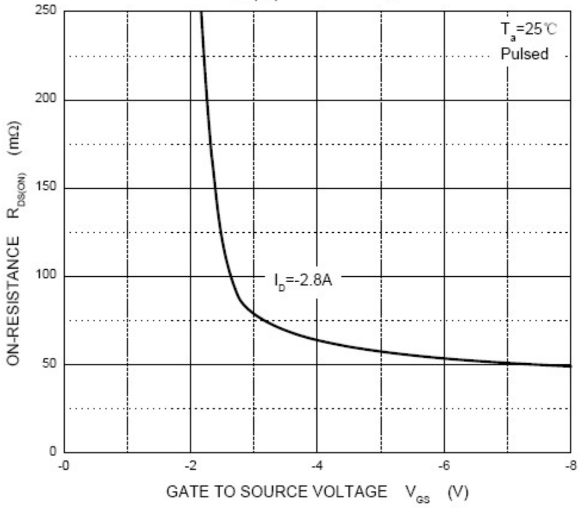
Transfer Characteristics



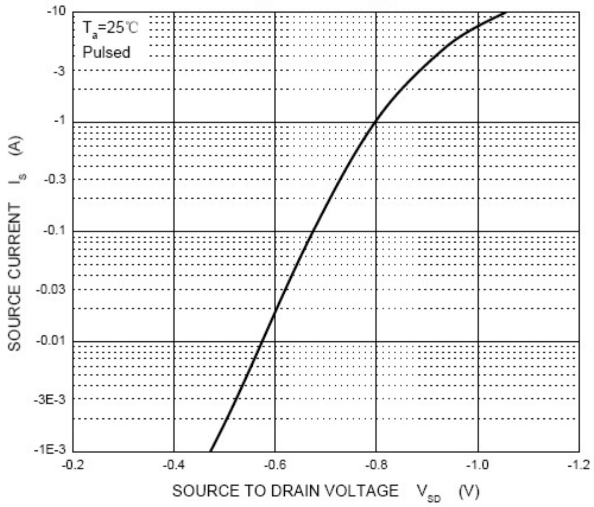
$R_{DS(ON)}$ —— I_D



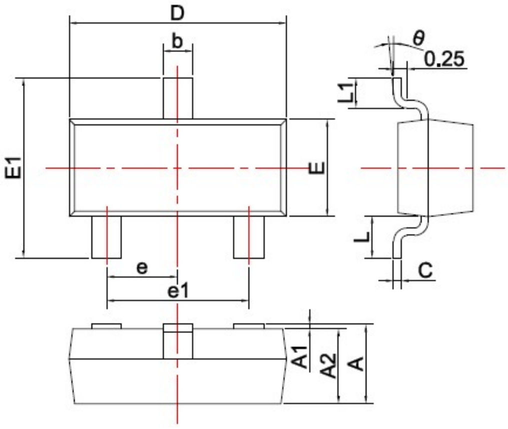
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



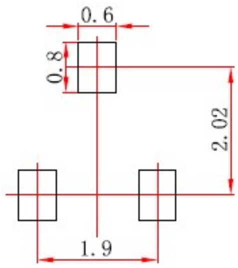
SOT-23 PACKAGE OUTLINE **Plastic surface mounted package**



SYMBOL	DIMENSIONS MIN.	DIMENSIONS MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

Precautions: PCB Design
Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:
1.Controlling dimension:In millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout Is for reference purposes only.

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