DACO

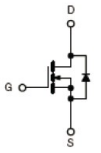
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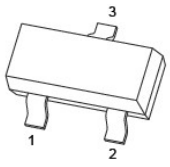
SOT-23 Plastic-Encapsulate MOSFET

V(BR)DSS	RDS(ON)MAX	ID
30V	60mΩ@10V	3.3A
	75mΩ@4.5V	

SOT-23

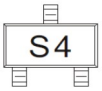
Equivalent Circuit





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	30	V
Gate-Source Voltage	VGS	±20	V
Continuous Drain Current	ID	3.3	A
Pulsed Drain Current	IDM	15	
Continuous Source-Drain Diode Current	IS	0.9	
Power Dissipation	PD	350	mW
Junction Temperature	Tj	150	℃
Storage Temperature	Tstg	-50-+150	℃
Thermal Resistance From Junction to Ambient	RθJA	357	℃/W

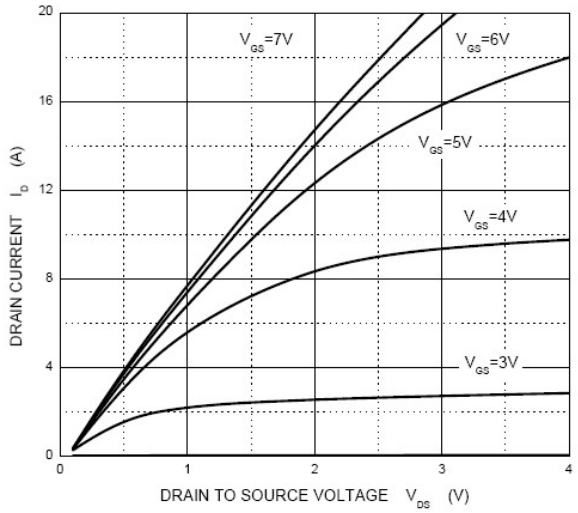
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V, ID=250uA	30			V
Gate-Threshold voltage*	V GS (th)	VDS=VGS, ID=250uA	1	1.55	2.2	V
Gate-body Leakage	IGSS	VDS=0V, VGS=±20V			±100	nA
Zero Gate Voltage Drain current	IDSS	VDS=30V, VGS=0V			1	uA
Drain-Source On-Resistance (a)	RDS(ON)	VGS=10V, ID=3.2A		37	60	mΩ
		VGS=4.5V, ID=2.8A		57	75	
Forward trans conductance (a)	gfs	VDS=4.5V, ID=2.5A	2.5			S
Diode forward voltage	VSD	IS=2.7A, VGS=0V		0.8	1.2	V
Continuous source-drain diode current	Is	Tc=25℃			1.4	A
Pulse diode forward current	ISM				15	A
Dynamic						
Input capacitance(b)	Ciss	VDS=15V, VGS=0V,f=1MHz		235		pF
Output capacitance(b)	Coss			45		
Reverse Transfer capacitance(b)	Crss			17		
Total gate charge	Qg	VDS=15V, VGS=10V,ID=3.4A		4.5	6.7	nC
		VDS=15V, VGS=4.5V,ID=3.4A		2.1	3.2	
Gate-source charge	Qgs			0.85		
Gate-drain charge	Qgd			0.65		
Gate resistance	Rg	F=1.0MHz	0.8	4.4	8.8	Ω
Switching (b)						
Turn-on Time	td(on)	VDD=15V, RL=5.6Ω, VGEN=4.5V, ID≈2.7A, RG=1Ω		12	20	ns
Rise time	tr			50	75	
Turn-off Time	td(off)			12	20	
Fall time	tf			22	35	
Turn-on Time	td(on)	VDD=15V, RL=5.6Ω, VGEN=10V, ID≈2.7A, RG=1Ω		5	10	
Rise time	tr			12	20	
Turn-off Time	td(off)			10	15	
Fall time	tf			5	10	

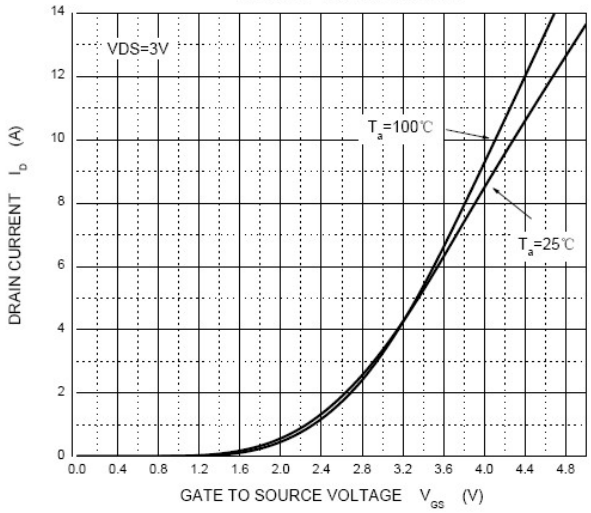
Notes: a. Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%.
b. These parameters have no way to verify.

Typical characteristics

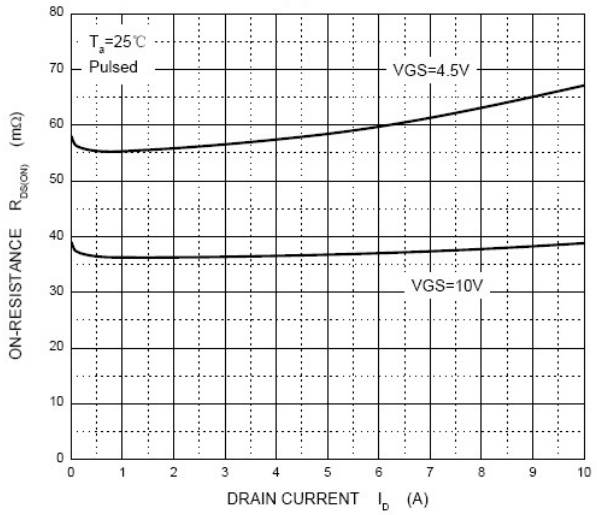
Output Characteristics



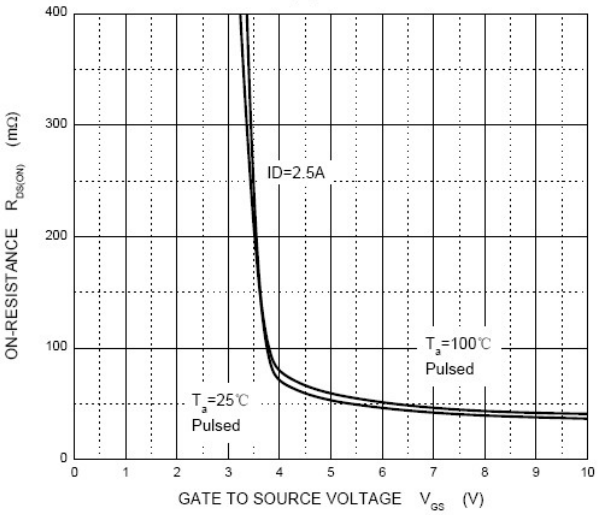
Transfer Characteristics



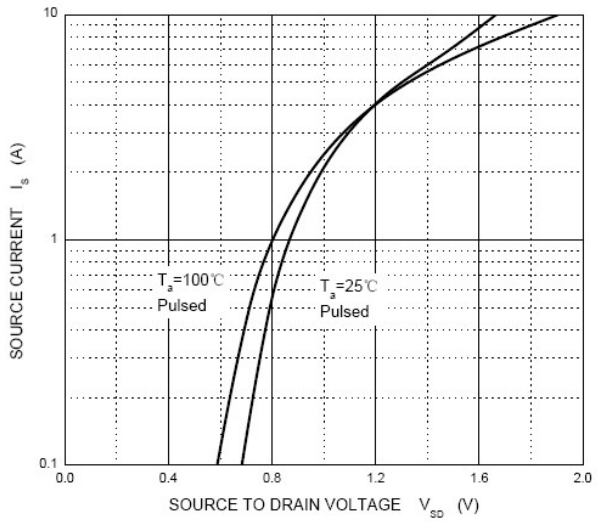
$R_{DS(ON)}$ —— I_D



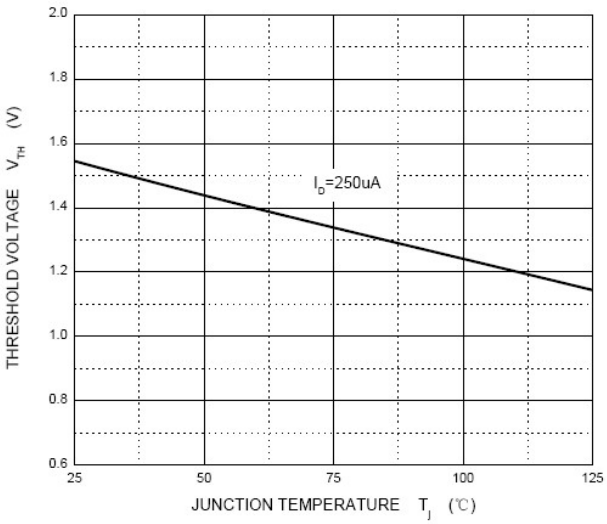
$R_{DS(ON)}$ —— V_{GS}



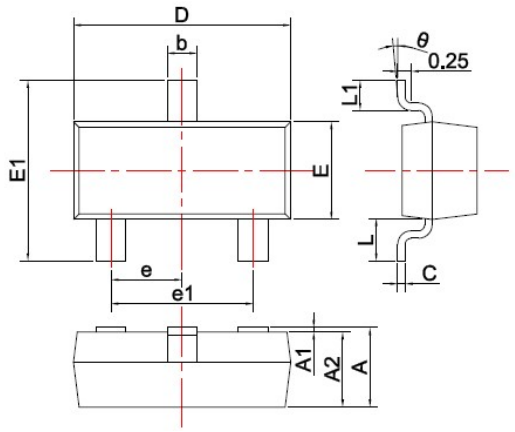
I_S —— V_{SD}



Threshold Voltage



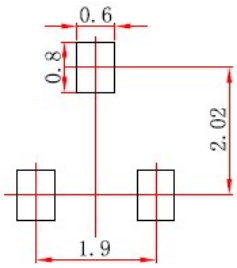
SOT-23 PACKAGE OUTLINE Plastic surface mounted package



SYMBOL	DIMENSIONS	
	MIN.	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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