DACO®

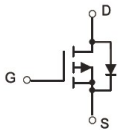
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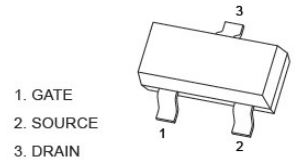
SOT-23 Plastic-Encapsulate MOSFET

V(BR)DSS	RDS(ON)MAX	ID
-30V	65mΩ@-10V	-4.2A
	75mΩ@-4.5V	
	90mΩ@-2.5V	

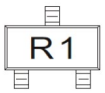
SOT-23

Equivalent Circuit





MARKING



Features

- High dense cell design for extremely low $R_{DS(on)}$.
- Exceptional on-resistance and maximum DC current capability.
- Load/Power Switching.
- Interfacing Switching

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	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	-4.2	A
Power Dissipation	P_D	350	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-50-+150	℃
Thermal Resistance From Junction to Ambient (note 2)	$R_{\theta JA}$	357	℃/W

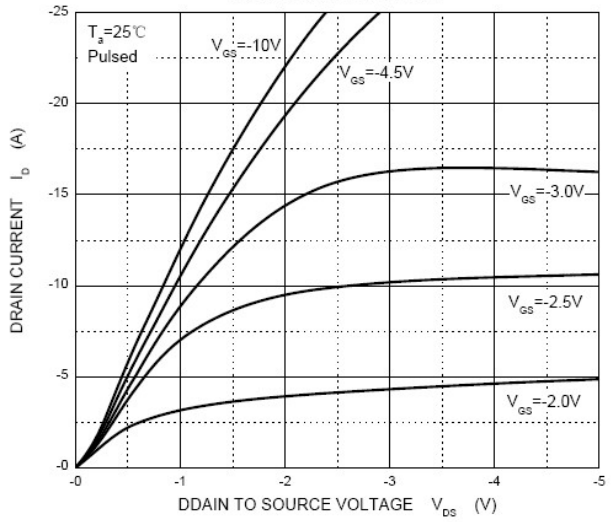
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Off characteristics						
Drain-Source Breakdown Voltage	**V(BR)DSS**	V_{GS}=0V, I_D=-250uA	-30			V
Zero Gate Voltage Drain current	**IDSS**	V_{DS}=-24V, V_{GS}=0V			-1	uA
Gate-body Leakage	**IGSS**	V_{DS}=±12V, V_{DS}=0V			±100	nA
On characteristics						
Drain-Source On-Resistance (note 1)	**RDS(ON)**	V_{GS}=-10V, I_D=-4.2A		50	65	mΩ
		V_{GS}=-4.5V, I_D=-4A		60	75	
		V_{GS}=-2.5V, I_D=-1A		75	90	
Forward trans conductance	**gfs**	V_{DS}=-5V, I_D=-5A	7			S
Gate-Threshold voltage*	**VGS (th)**	V_{DS}=V_{GS}, I_D=-250uA	-0.7	-0.9	-1.3	V
Dynamic characteristics (note 2)						
Input capacitance	**Ciss**	V_{DS}=-15V, V_{GS}=0V,f=1MHz		954		pF
Output capacitance	**Coss**			115		
Reverse Transfer capacitance	**Crss**			77		
Switching characteristics (note 2)						
Turn-on Time	**td(on)**	V_{GS}=-10V, R_L=3.6Ω, V_{DS}=-15V, R_{GEN}=6Ω			6.3	ns
Rise time	**tr**				3.2	
Turn-off Time	**td(off)**				38.2	
Fall time	**tf**				12	
Drain-source diode characteristics and maximum ratings						
Diode forward voltage(note 1)	**VSD**	I_S=-1A, V_{GS}=0V			-1.0	V

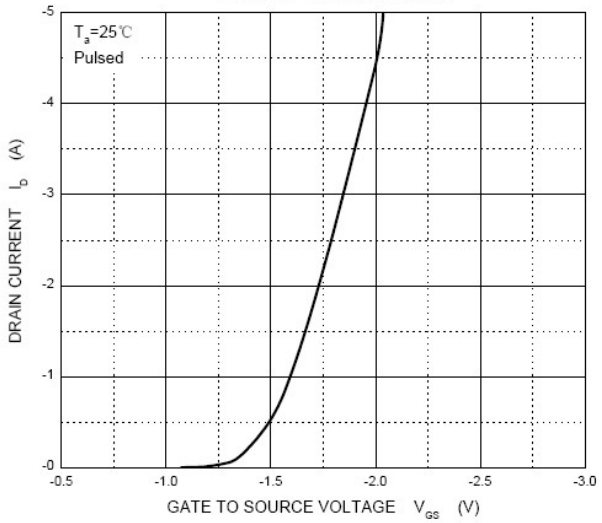
Notes: 1. Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%.
2. These parameters have no way to verify.

Typical characteristics

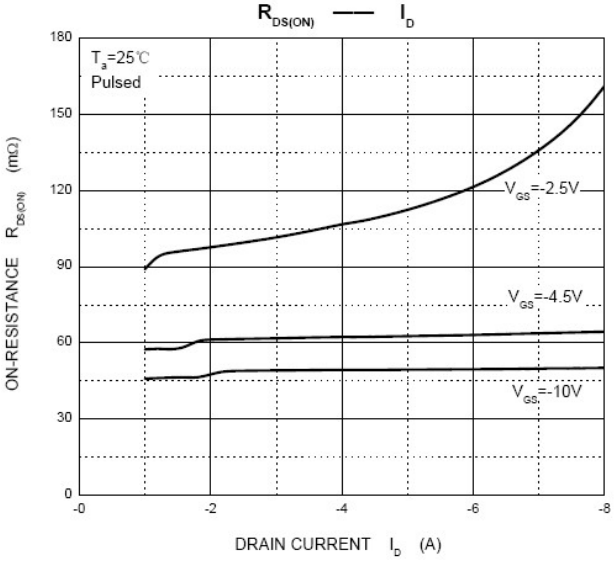
Output Characteristics



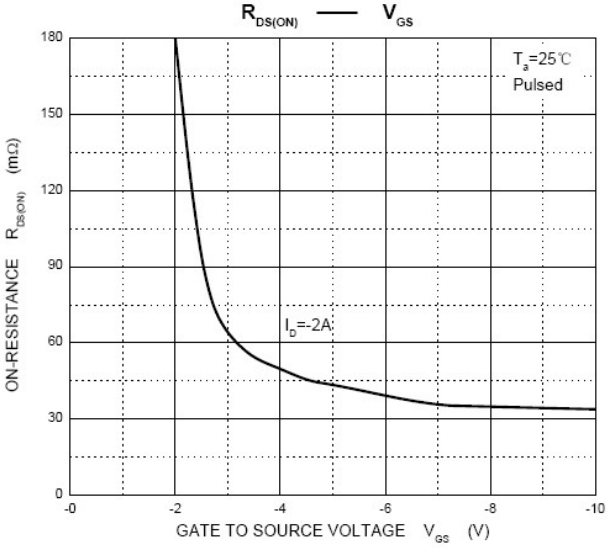
Transfer Characteristics



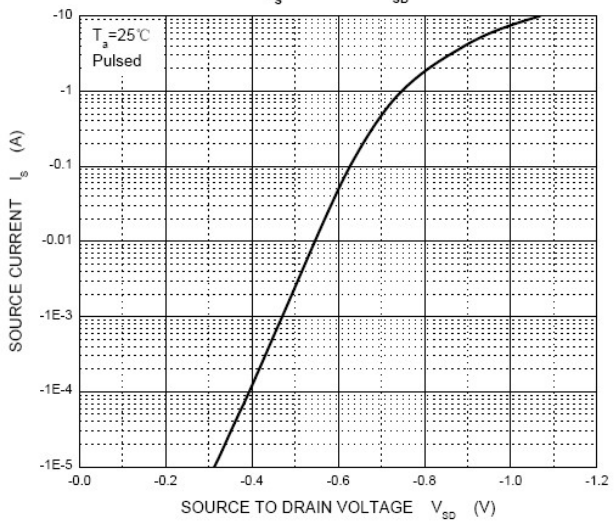
RDS(ON) —— ID



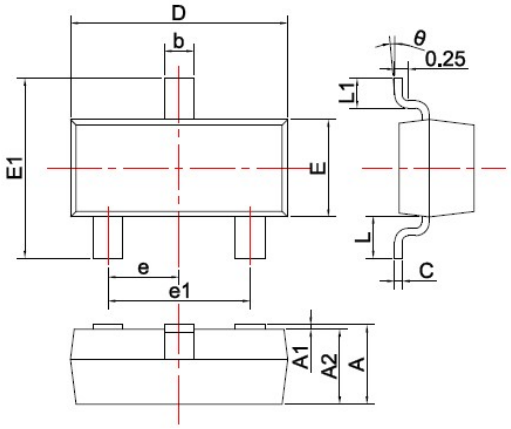
RDS(ON) —— VGS



IS —— VSD



SOT-23 PACKAGE OUTLINE Plastic surface mounted package

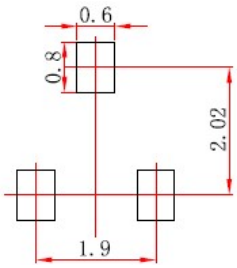


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

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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