

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



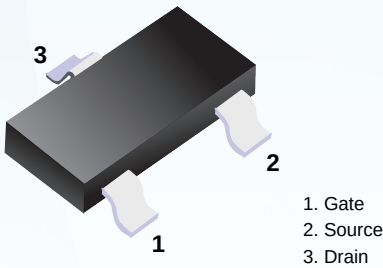
DC-DC

Product Specification

▶ Domestic	Part Number	AO3423A
▶ Overseas	Part Number	AO3423A
▶ Equivalent	Part Number	AO3423A

EV is the abbreviation of name EVVO

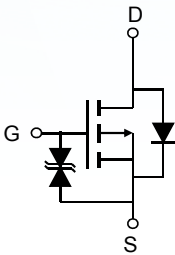
P-Channel Enhancement MOSFET



Features

- $V_{DS} (V) = -20V$
- $I_D = -2.0 A (V_{GS} = -10V)$
- $R_{DS(ON)} < 92m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 118m\Omega (V_{GS} = -4.5V)$
- $R_{DS(ON)} < 166m\Omega (V_{GS} = -2.5V)$

Simplified outline(SOT23-3L)



Absolute Maximum Ratings $T_a = 25^{\circ}C$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current $T_a = 25^{\circ}C$ $T_a = 70^{\circ}C$	I_D	-2	A
		-2	
Pulsed Drain Current (Note.1)	I_{DM}	-17	
Power Dissipation (Note.2) $T_a = 25^{\circ}C$ $T_a = 70^{\circ}C$	P_D	1.4	W
		0.9	
Thermal Resistance.Junction- to-Ambient $t \leq 10 s$ Steady State	R_{thJA}	90	$^{\circ}C/W$
		125	
Thermal Resistance.Junction- to-Lead	R_{thJL}	60	
Junction Temperature	T_J	150	$^{\circ}C$
Junction and Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)} = 150^{\circ}C$. Ratings are based on low frequency and duty cycles to keep initial $T_J = 25^{\circ}C$.

Note.2: The power dissipation P_D is based on $T_{J(MAX)} = 150^{\circ}C$, using $\leq 10s$ junction-to-ambient thermal resistance.

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μA, V _{GS} =0V	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V			-1	μA
		V _{DS} =-20V, V _{GS} =0V, T _J =55°C			-5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±10	uA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-0.5	-0.85	-1.2	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-2A		76	92	mΩ
		V _{GS} =-10V, I _D =-2A T _J =125°C		99	119	
		V _{GS} =-4.5V, I _D =-2A		94	118	
		V _{GS} =-2.5V, I _D =-1A		128	166	
On state drain current	I _{D(on)}	V _{GS} =-4.5V, V _{DS} =-5V	-17			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-2A		6.8		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-10V, f=1MHz	250	325	400	pF
Output Capacitance	C _{oss}		40	63	85	
Reverse Transfer Capacitance	C _{rss}		22	37	52	
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		11.2	17	Ω
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-10V, I _D =-2A		3.2	4.5	nC
Gate Source Charge	Q _{gs}			0.6		
Gate Drain Charge	Q _{gd}			0.9		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-10V, V _{DS} =-10V, R _L =5Ω, R _{GEN} =3Ω		11		ns
Turn-On Rise Time	t _r			5.5		
Turn-Off DelayTime	t _{d(off)}			22		
Turn-Off Fall Time	t _f			8		
Body Diode Reverse Recovery Time	t _{rr}	I _F =-2A, dI/dt=100A/μs		6.1		nC
Body Diode Reverse Recovery Charge	Q _{rr}			1.4		
Maximum Body-Diode Continuous Current	I _S				-1.5	A
Diode Forward Voltage	V _{SD}	I _S =-1.0A, V _{GS} =0V		-0.76	-1	V

■ Typical Characteristics

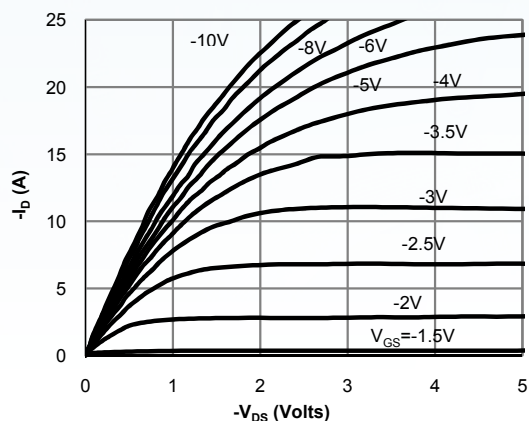


Fig 1: On-Region Characteristics

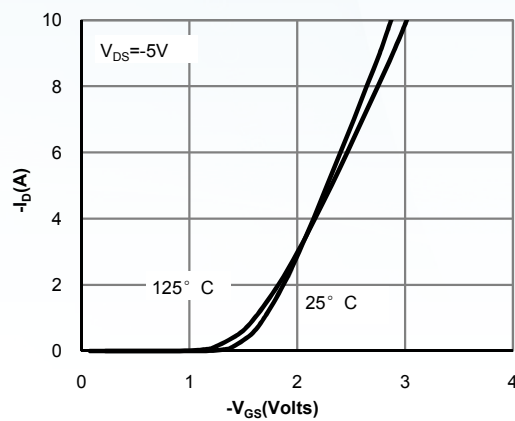


Figure 2: Transfer Characteristics

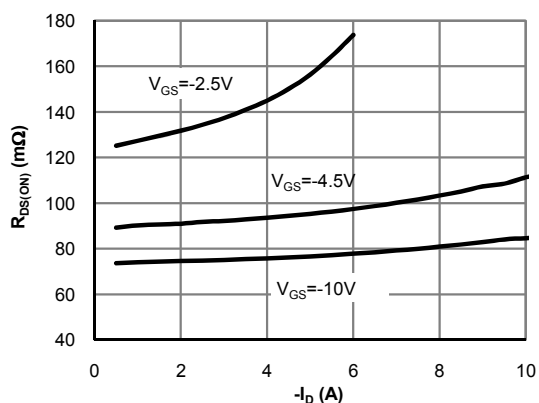


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

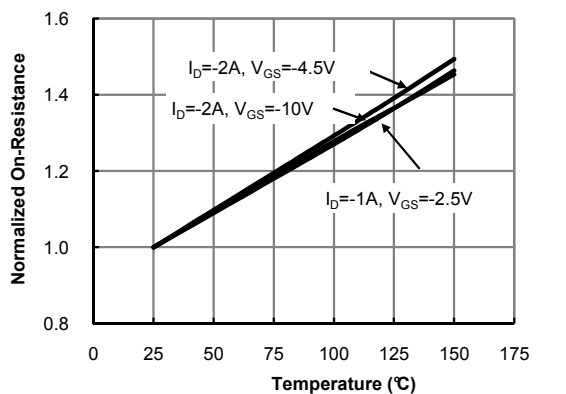


Figure 4: On-Resistance vs. Junction Temperature

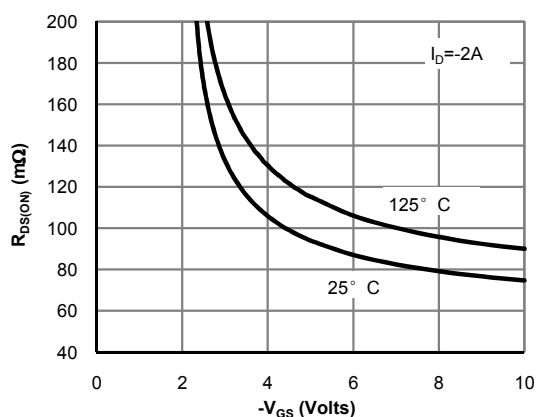


Figure 5: On-Resistance vs. Gate-Source Voltage

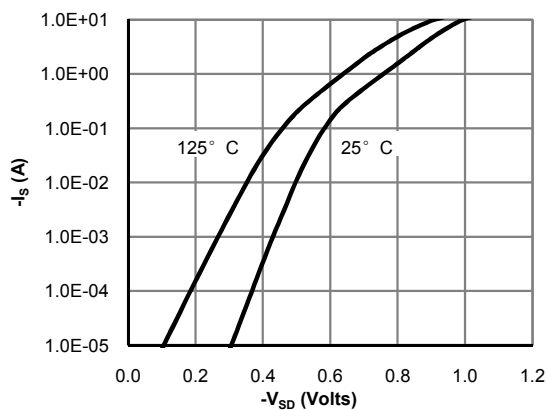
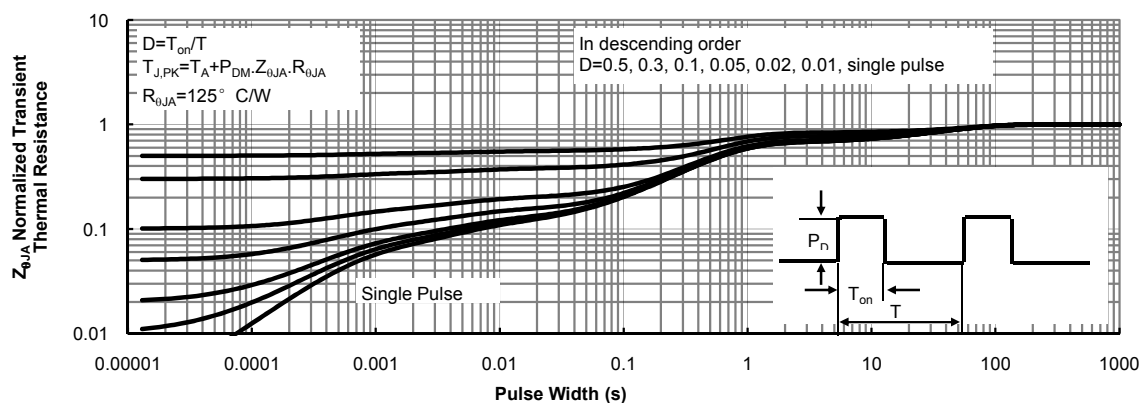
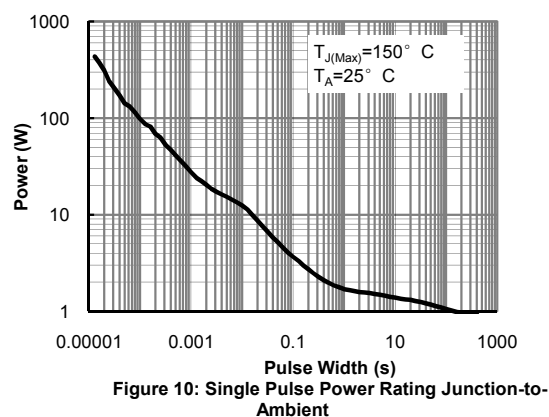
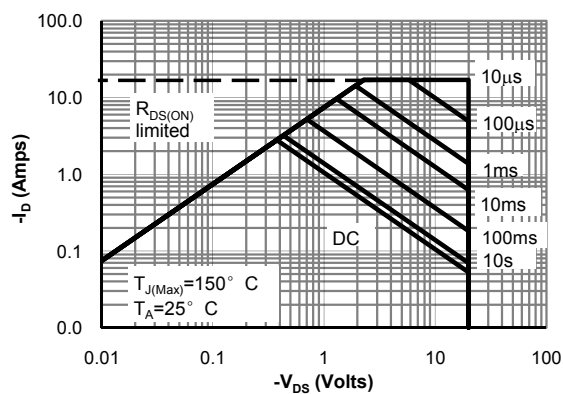
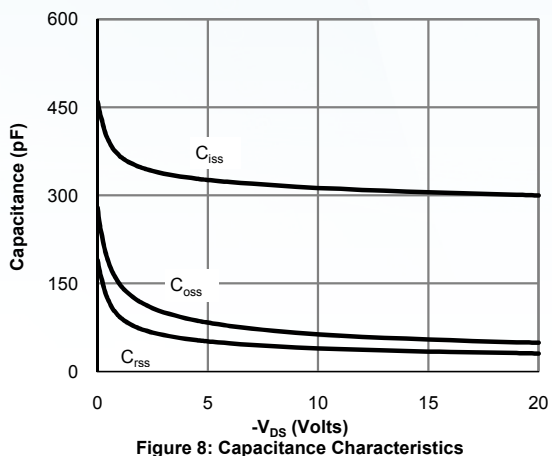
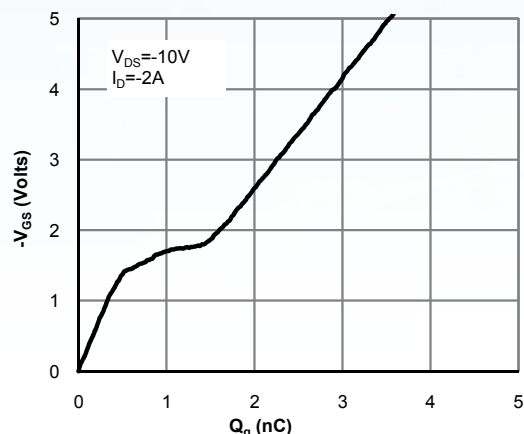
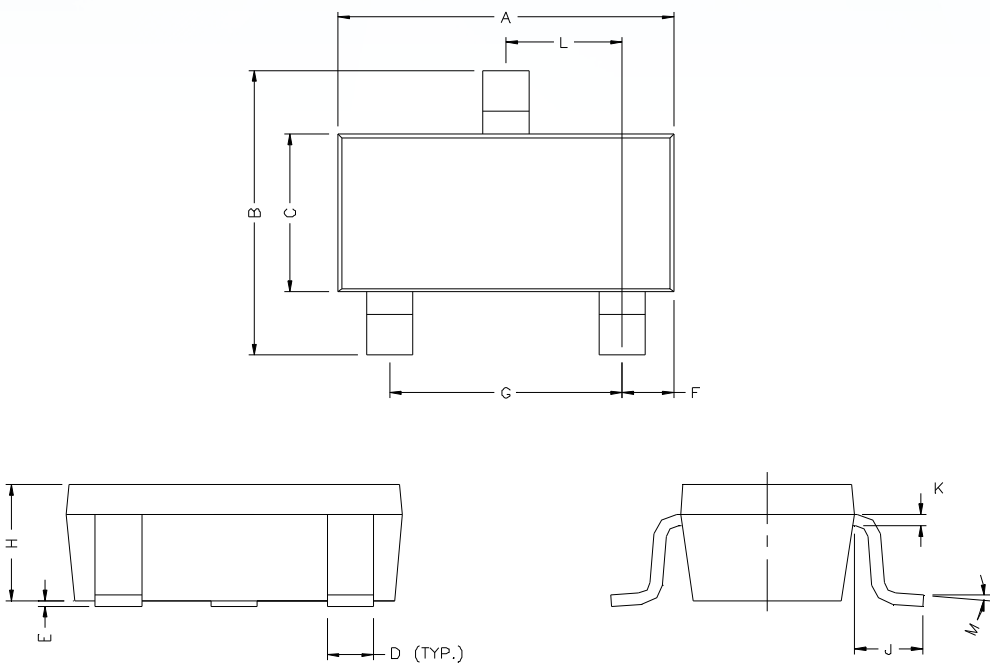


Figure 6: Body-Diode Characteristics

■ Typical Characteristics



■ SOT23-3L



DIMENSIONS (mm are the original dimensions)

UNIT	A	B	C	D	E	F	G	H	K	J	L	M
mm	2.70 3.10	2.65 2.95	1.50 1.70	0.35 0.50	0 0.10	0.45 0.55	1.9	1.00 1.30	0.10 0.20	0.40 -	0.85 1.15	0° 10°

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