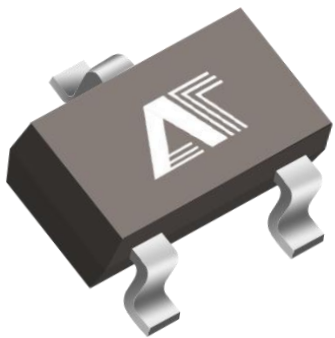




Field Effect Transistor

AO3401

Product Data Sheet

AOTE DCC

RELEASE

◆ Summary :

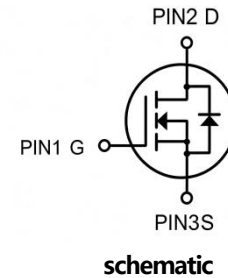
The P-channel MOSFET adopts SOT-23 packaging, with a rated voltage of 20V and the ability to carry 3A current

◆ Product features

- High power and current handing capability
- Surface mount package

◆ Applications

- Power Management
- Load switching



Vos	Ros(on)Max.	Ib.
-30V	55mΩ@-10V	-4.2A
	75mΩ@-4.5V	
	90mQ@-2.5V	

◆ Absolute Max Ratings at Ta=25°C(Note1)

Parameter	Symbol	Maximum	Units
Drain to Source Voltage	VDss	-30	V
Gate to Source Voltage	VGss	±12	V
Drain Current(DC)	Io	-4.2	A
Drain Current(Pulse),PW≤300μs	Iop	-30	A
Total Dissipation	Po	1.2	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 to +150	°C

Note 1:Stresses exceeding those listed in the Maximum Ratings table may damage the device.Ifany of these limits are exceeded,device functionality should not be assumed,damage may occur and reliability may be affected.

◆ Thermal Resistance Ratings (Note 2)

Parameter	Symbol	Value	Unit
Thermal Resistance,Junction-to-Ambient	ReJA	104	°C/W

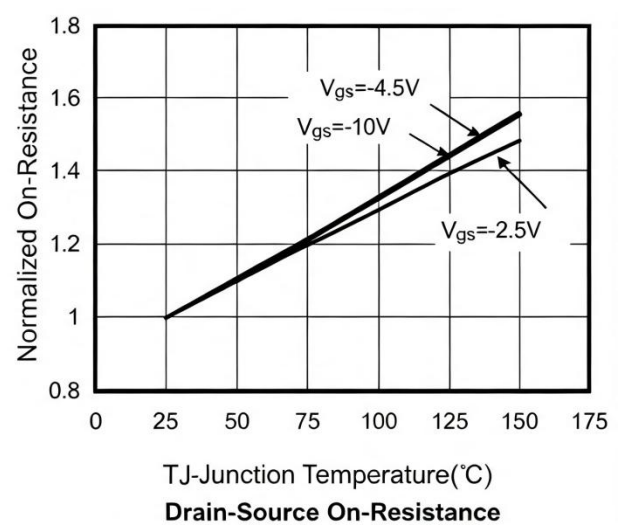
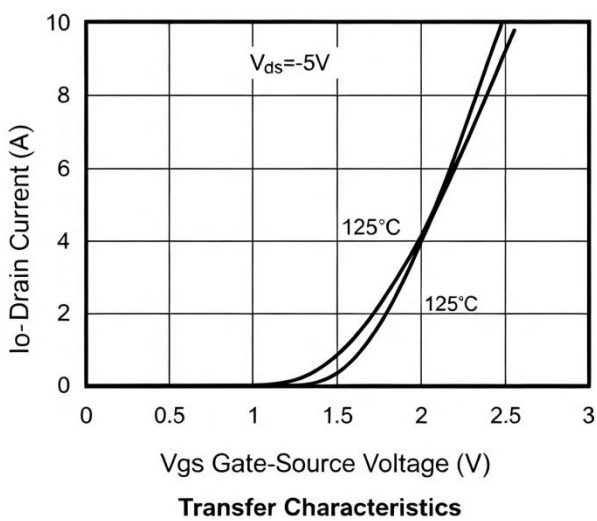
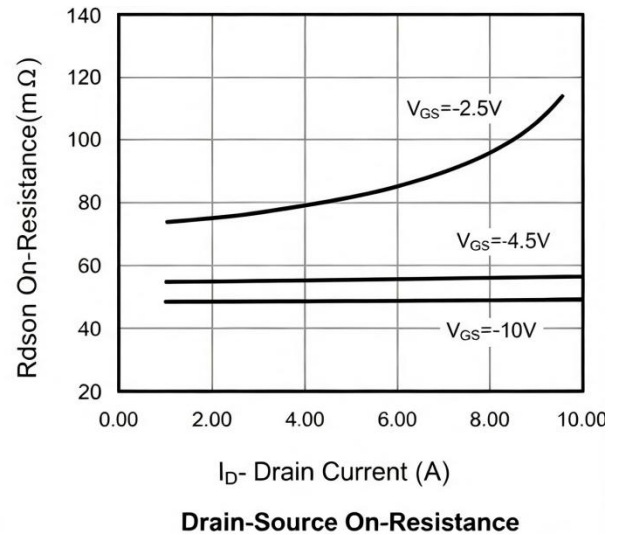
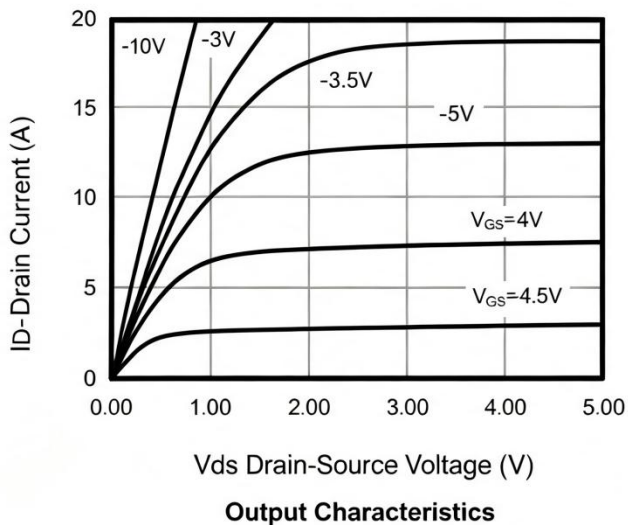
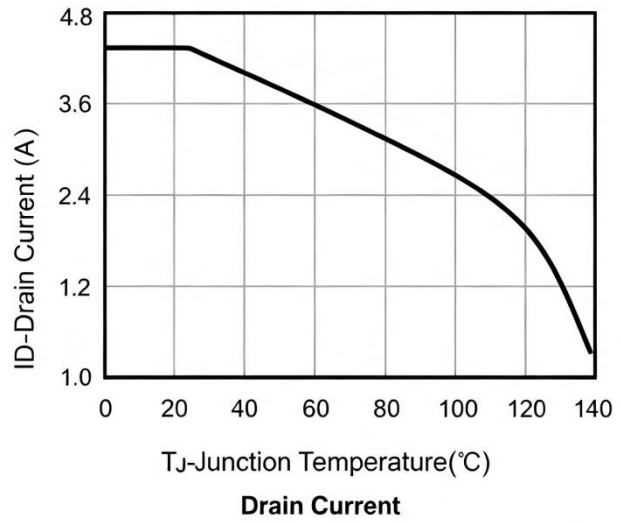
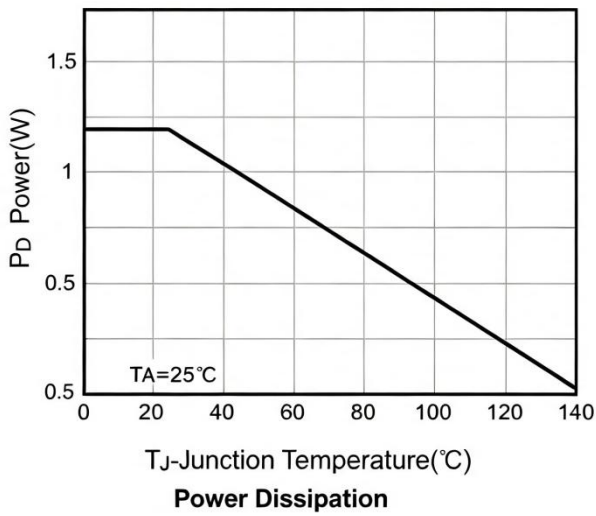
Note 2:When mounted on 1 inch square copper board t≤10sec The value in any given application depends on the user's specific board design.

◆ Electrical Characteristics at Ta=25°C(Note 3)

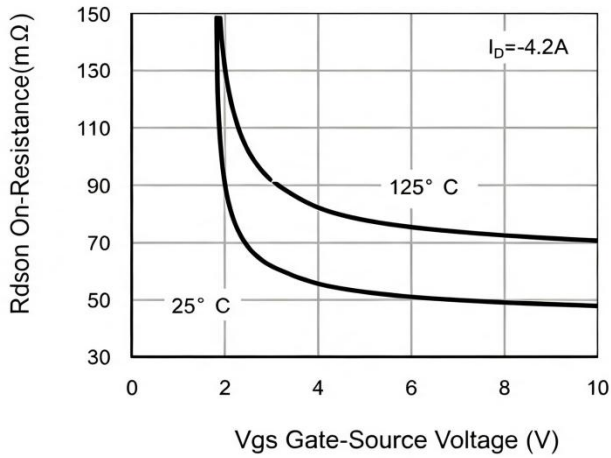
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -250\mu A, V_{SS} = 0V$	-30			V
Zero-Gate Voltage Drain Current	I_{loss}	$V_{os} = -24V, V_{GS} = 0V$			-1	μA
Gate to Source Leakage Current	I_{css}	$V_{GS} = \pm 10V, V_{os} = 0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{os} = V_{SS}, I_{os} = -250\mu A$	-0.7	-1	1.3	V
Static Drain to Source On-State Resistance	$R_{DS(on)}$	$I_b = -4.2A, V_{cs} = -10V$		48	55	m Ω
		$I_o = -4A, V_{cs} = -4.5V$		56	75	m Ω
		$I_b = -1A, V_{gs} = -2.5V$		72	90	m
Forward Transconductance	g_{rs}	$V_{os} = -5V, I_o = -4.2A$		10		S
Input Capacitance	C_{iss}	$V_{cs} = 0V,$ $V_{os} = -15V,$ Frequency=1.0MHz		880		pF
Output Capacitance	C_{oss}			105		pF
Reverse Transfer Capacitance	C_{rss}			65		pF
Turn-ON Delay Time	$t_{d(on)}$	$V_{os} = -15V, I_o = -4.2A, V_{SS} = -10V, R_{GEN} = 6\Omega$		7		ns
Rise Time	t_r			3		ns
Turn-OFF Delay Time	$t_{d(of)}$			30		ns
Fall Time	t_f			12		ns
Total Gate Charge	Q_g	$V_{os} = -15V,$ $V_{SS} = -4.5V, I_b = -4.2A$		8.5		nC
	Q_{gs}			1.8		nC
	Q_{gd}			2.7		nC
Diode Forward Voltage	V_{FsD}	$I_s = -4.2A, V_{SS} = 0$			-1.2	V

Note 3: Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

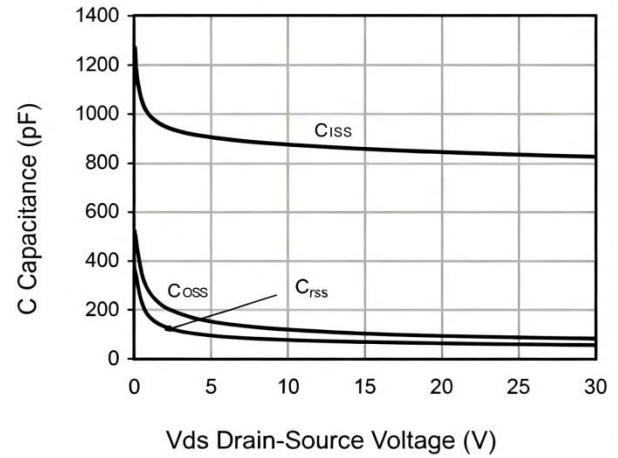
◆ **Typical Electrical and Thermal Characteristics**



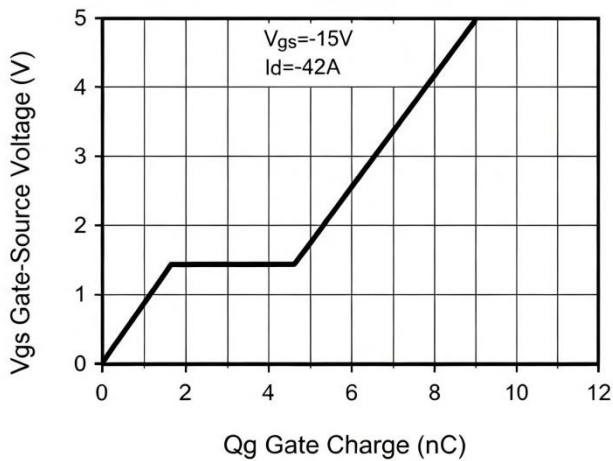
◆ Packagesizeandinformation



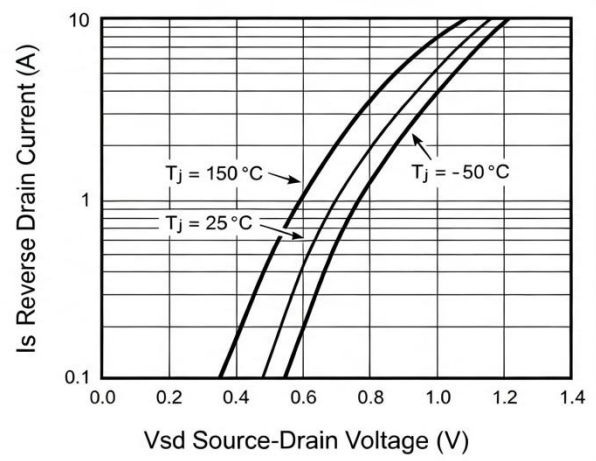
Rdson vs. Vgs



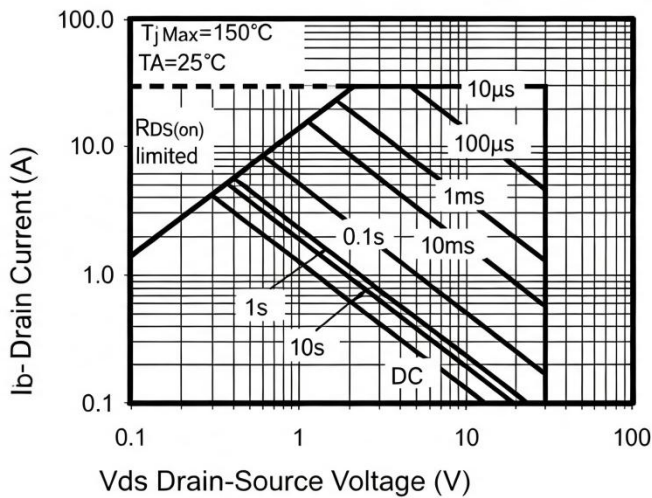
Capacitance vs. Vds



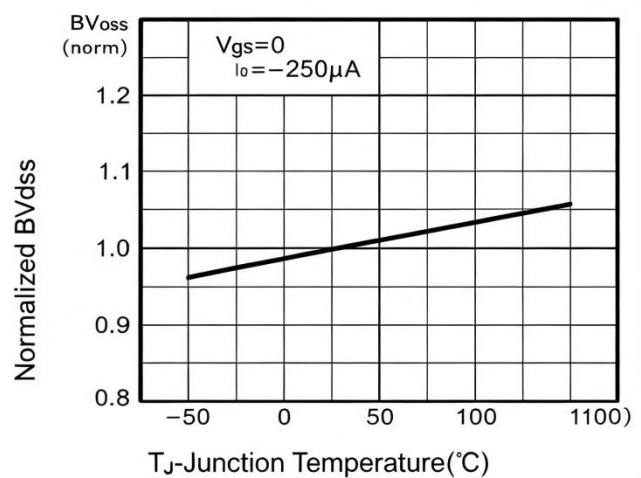
Gate Charge



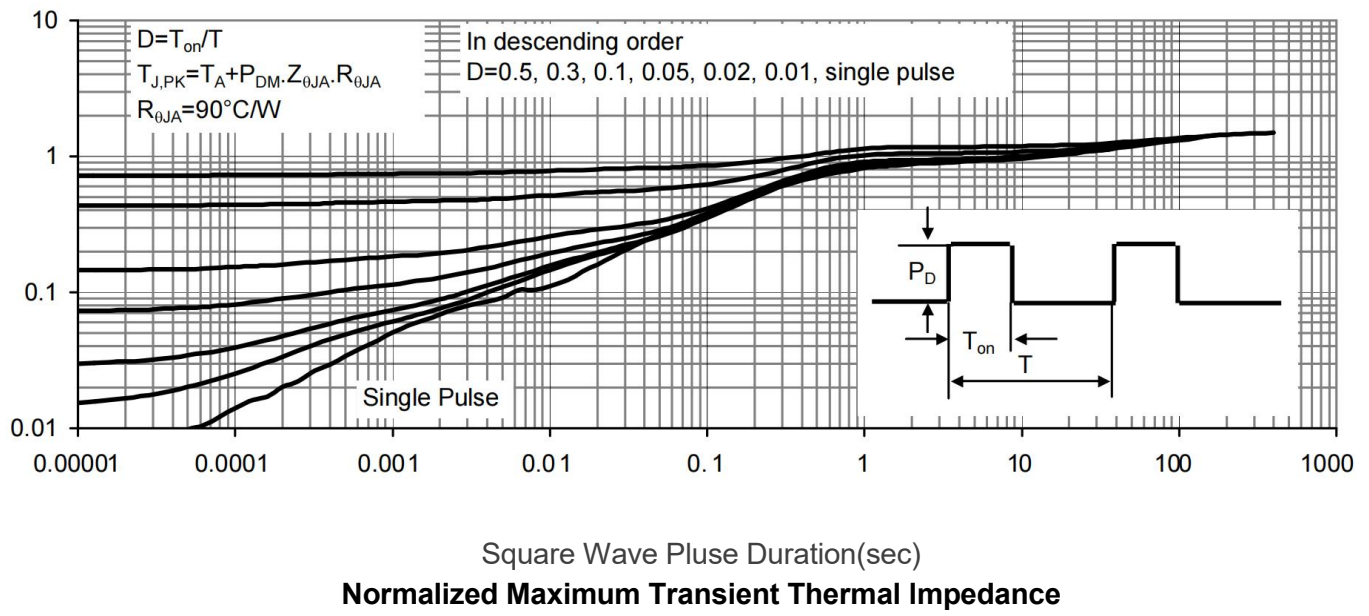
Source- Drain Diode Forward



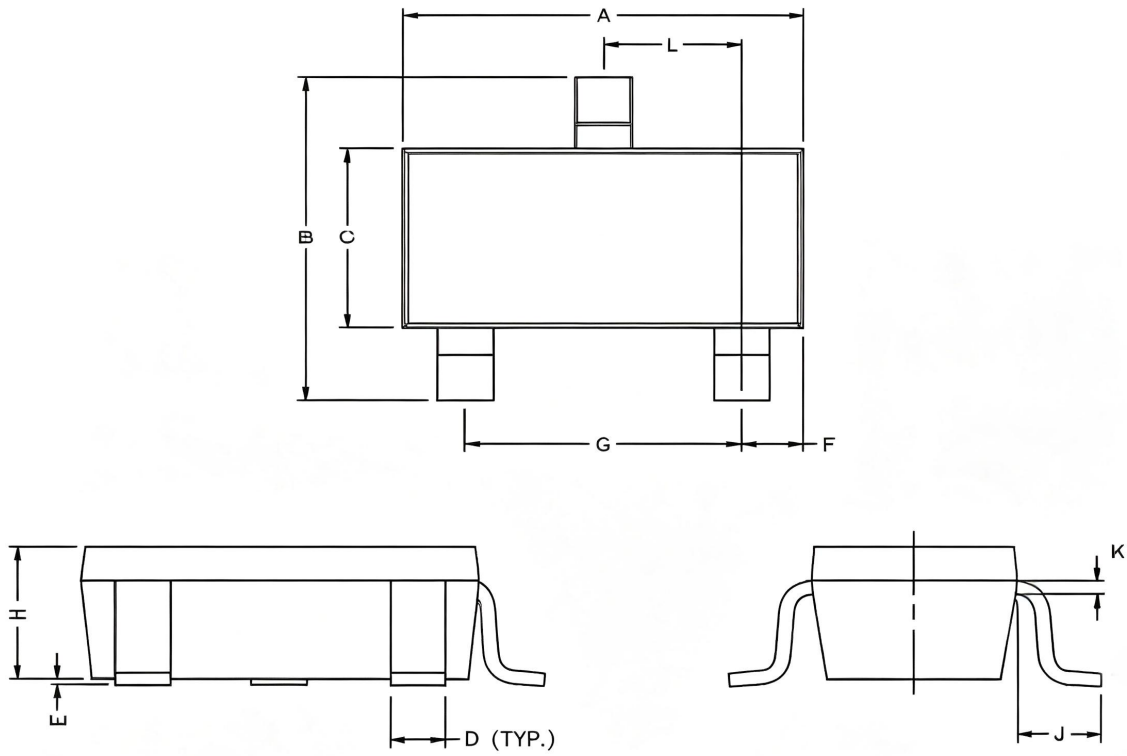
Safe Operation Area



BVoss vs. Junction Temperature



◆ **Package size and information**



◆ Attention

- AOTE implements dynamic technical updates. Specifications are subject to change. Refer to the official website for the latest version.
- Users must strictly adhere to specified conditions. Failures caused by misuse (overload, high temperature, incompatible circuits) are excluded from warranty.
- Contact technical support for customized validation in critical applications (medical devices, industrial control).
- This document is valid until December 31, 2026. Updates will be notified on the official website.
- For further clarification on technical specifications or application solutions, please contact us through official channels: