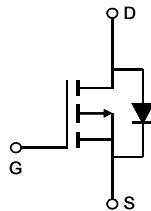
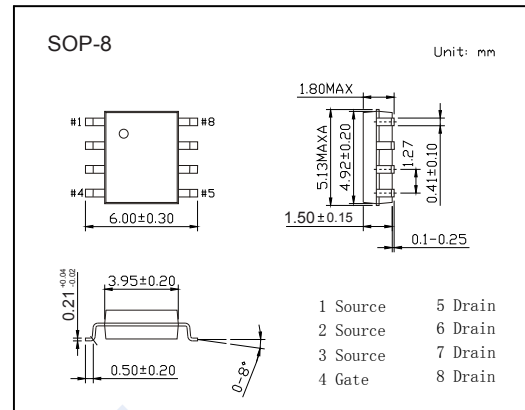


P-Channel MOSFET AO4407-HF

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -12 A (V_{GS} = -20V)$
- $R_{DS(ON)} < 13m\Omega (V_{GS} = -20V)$
- $R_{DS(ON)} < 14m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 30m\Omega (V_{GS} = -5V)$
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	-30	V	
Gate-Source Voltage	V_{GS}	± 25		
Continuous Drain Current	I_D	$T_A = 25^\circ C$	A	
		$T_A = 70^\circ C$		-10
Pulsed Drain Current	I_{DM}	-60		
Avalanche Current	I_{AS}, I_{AR}	26		
Power Dissipation	P_D	$T_A = 25^\circ C$	3.1	W
		$T_A = 70^\circ C$	2	
Avalanche energy	$L = 0.3mH$	E_{AS}, E_{AR}	101	mJ
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	40	$^\circ C/W$
		Steady-State	75	
Thermal Resistance.Junction- to-Case	Steady-State	R_{thJC}	24	
Junction Temperature	T_J	150	$^\circ C$	
Junction Storage Temperature Range	T_{stg}	-55 to 150		

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■ 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	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
		V _{DS} =-30V, V _{GS} =0V, T _J =55°C			-5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±25V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-1.7		-2.8	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-20V, I _D =-12A			13	mΩ
		V _{GS} =-10V, I _D =-12A			14	
		V _{GS} =-10V, I _D =-12A T _J =125°C			19	
		V _{GS} =-5V, I _D =-7A			30	
On state drain current	I _{D(ON)}	V _{GS} =-10V, V _{DS} =-5V	-60			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-10.5A		27		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		2060	2600	pF
Output Capacitance	C _{oss}			370		
Reverse Transfer Capacitance	C _{rss}			295		
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	1.2	2.4	3.6	Ω
Total Gate Charge	Q _g	V _{GS} =-10V, V _{DS} =-15V, I _D =-12A	24	30	36	nC
Gate Source Charge	Q _{gs}			4.6		
Gate Drain Charge	Q _{gd}			10		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-10V, V _{DS} =-15V, R _L =1.25 Ω, R _G =3 Ω		11		ns
Turn-On Rise Time	t _r			9.4		
Turn-Off DelayTime	t _{d(off)}			24		
Turn-Off Fall Time	t _f			12		
Body Diode Reverse Recovery Time	t _{rr}	I _F =-12A, di/dt=100A/μs		30	40	nC
Body Diode Reverse Recovery Charge	Q _{rr}			22		
Maximum Body-Diode Continuous Current	I _S				-4	A
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1	V

■ Marking

Marking	4407
	KC**** F

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■ Typical Characteristics

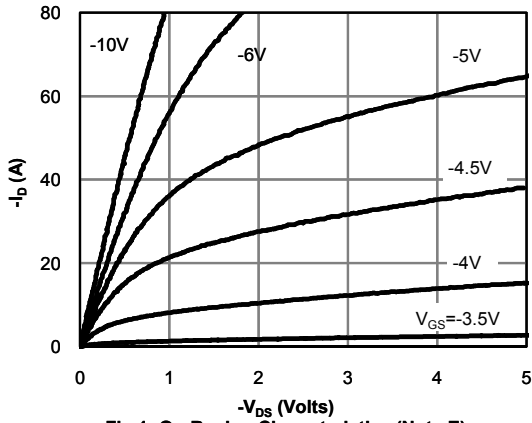


Fig 1: On-Region Characteristics (Note E)

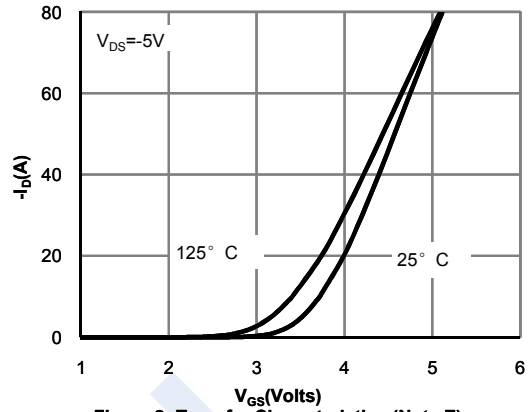


Figure 2: Transfer Characteristics (Note E)

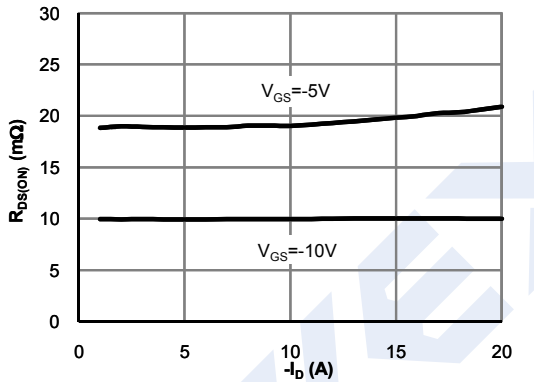


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

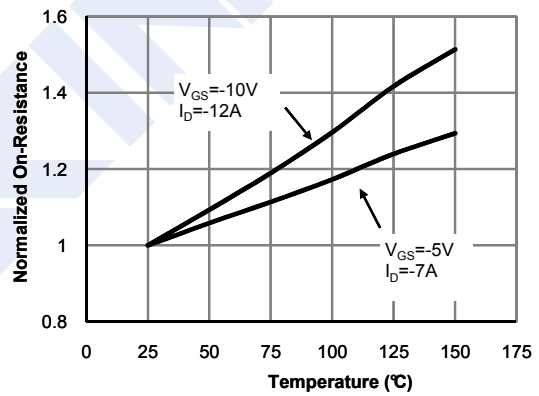


Figure 4: On-Resistance vs. Junction Temperature (Note E)

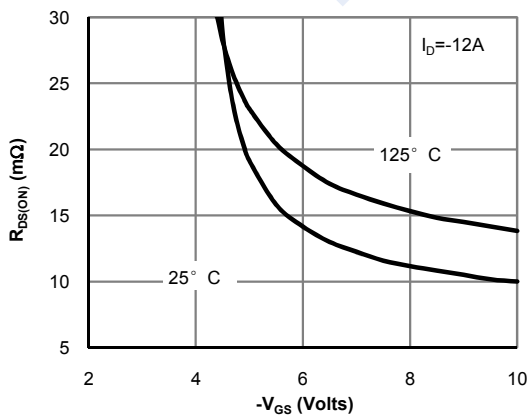


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

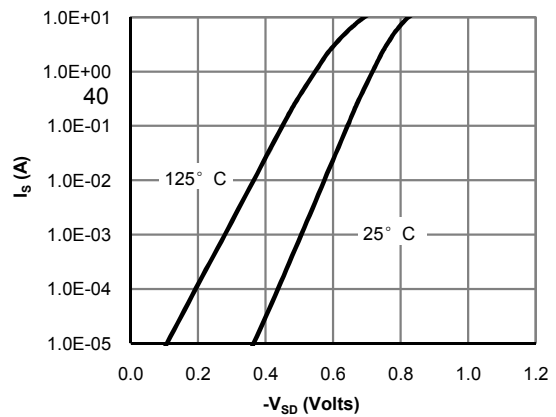


Figure 6: Body-Diode Characteristics (Note E)

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■ Typical Characteristics

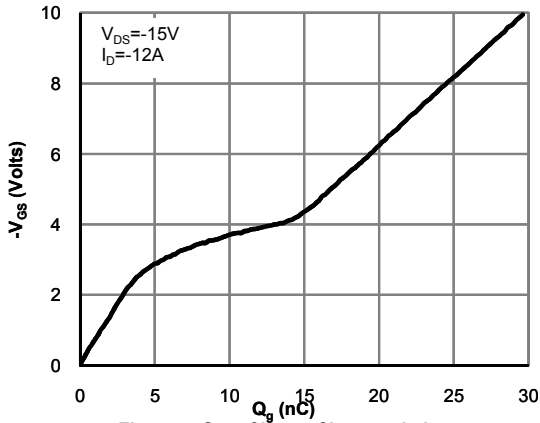


Figure 7: Gate-Charge Characteristics

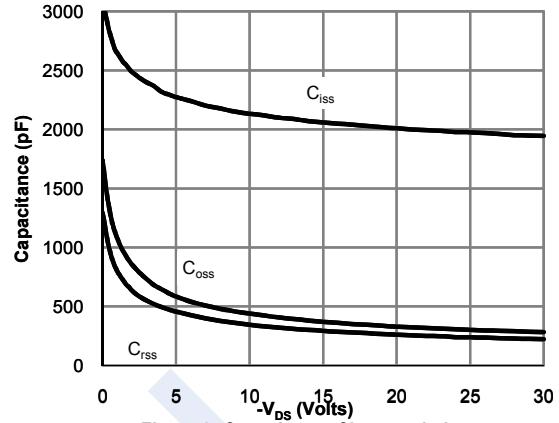


Figure 8: Capacitance Characteristics

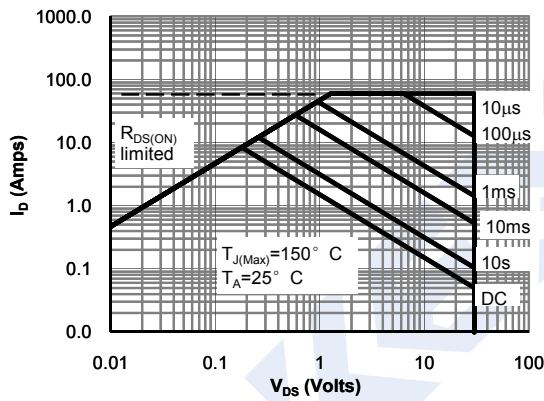


Figure 10: Maximum Forward Biased Safe Operating Area (Note F)

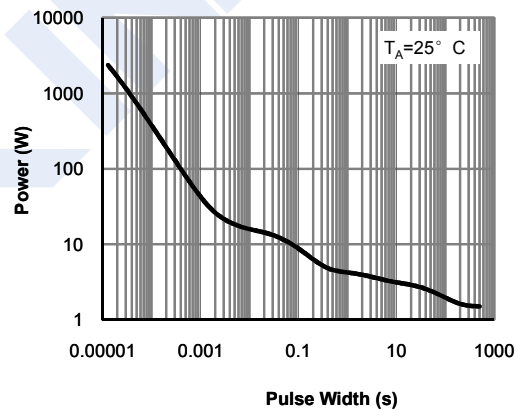


Figure 11: Single Pulse Power Rating Junction-to-Ambient (Note F)

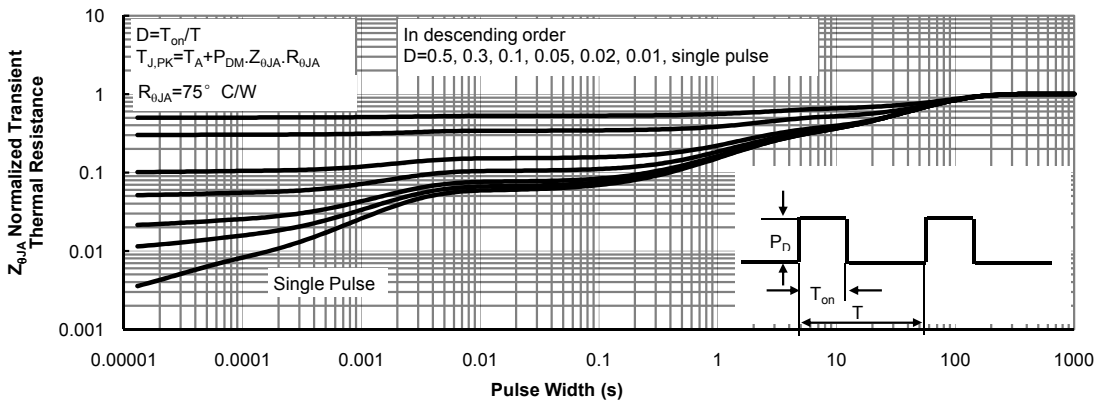


Figure 12: Normalized Maximum Transient Thermal Impedance (Note F)