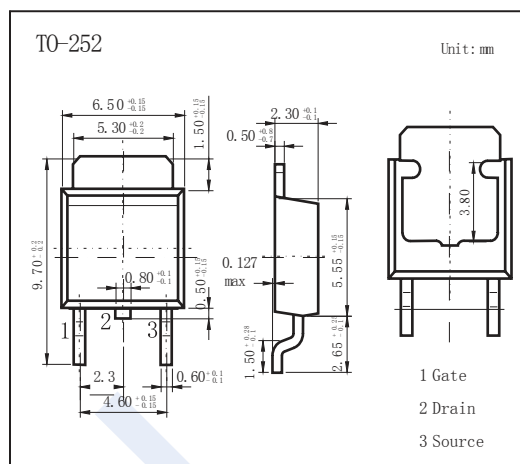
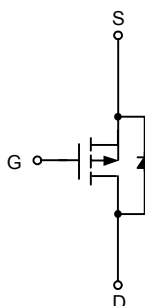


P-Channel Enhancement MOSFET

APM4015PU

■ Features

- $V_{DS} (V) = -40V$
- $I_D = -45 A$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 13m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 19m\Omega$ ($V_{GS} = -4.5V$)



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-40	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current (Note.1)	I_D	$T_c = 25^\circ C$	A
		$T_c = 100^\circ C$	
Pulsed Drain Current (Note.1)	I_{DP}	$T_c = 25^\circ C$	
		$T_c = 100^\circ C$	
Power Dissipation (Note.1)	P_D	$T_c = 25^\circ C$	W
		$T_c = 100^\circ C$	
Thermal Resistance.Junction- to-Ambient (Note.1)	R_{thJA}	50	$^\circ C/W$
Thermal Resistance.Junction- to-Case (Note.1)	R_{thJC}	2.5	
Junction Temperature	T_J	150	$^\circ C$
Junction and Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: Surface Mounted on $1in^2$ pad area, $t \leq 10$ sec.

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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	-40			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-32V, V _{GS} =0V			-1	μA
		V _{DS} =-32V, V _{GS} =0V, T _J =85°C			-30	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-1.3	-2	-2.5	V
Static Drain-Source On-Resistance (Note.1)	R _{DS(on)}	V _{GS} =-10V, I _D =-20A		13	16	mΩ
		V _{GS} =-4.5V, I _D =-10A		19	25	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-20V, f=1MHz (Note.2)		2800		pF
Output Capacitance	C _{oss}			320		
Reverse Transfer Capacitance	C _{rss}			220		
Gate resistance (Note.2)	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		4		Ω
Total Gate Charge	Q _g	V _{GS} =-10V, V _{DS} =-20V, I _D =-20A (Note.2)		40	56	nC
Gate Source Charge	Q _{gs}			6		
Gate Drain Charge	Q _{gd}			12		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-10V, V _{DS} =-20V, R _L =20Ω, R _{GEN} =6Ω, I _{DS} =-1A (Note.2)		11	21	ns
Turn-On Rise Time	t _r			75	135	
Turn-Off DelayTime	t _{d(off)}			89	161	
Turn-Off Fall Time	t _f			35	64	
Body Diode Reverse Recovery Time	t _{rr}	I _S =-20A, di/dt=100A/μs		28		nC
Body Diode Reverse Recovery Charge	Q _{rr}			26		
Maximum Body-Diode Continuous Current	I _S	T _C =25°C (Note.3)			-20	A
Diode Forward Voltage (Note.1)	V _{SD}	I _S =-20A, V _{GS} =0V		-0.75	-1.1	V

Note.1:Pulse test ; pulse width ≤ 300ms, duty cycle ≤ 2%.

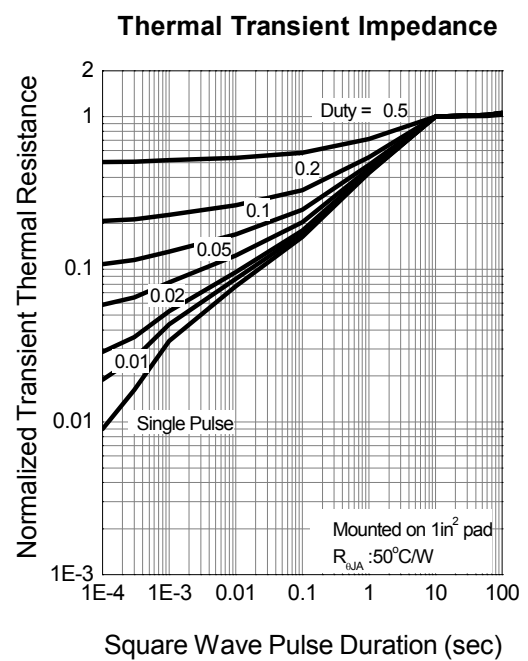
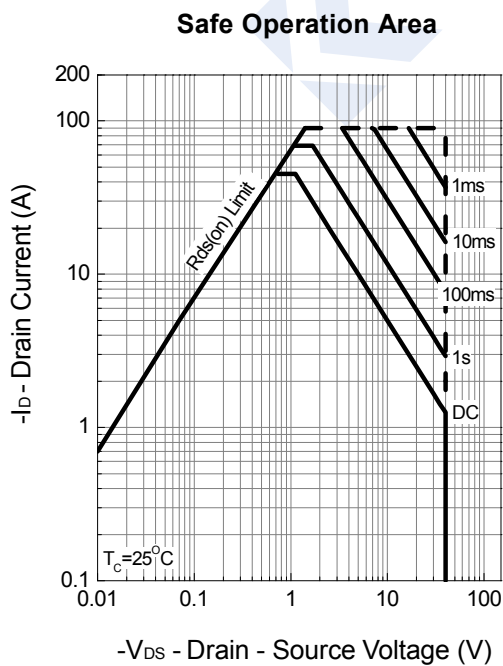
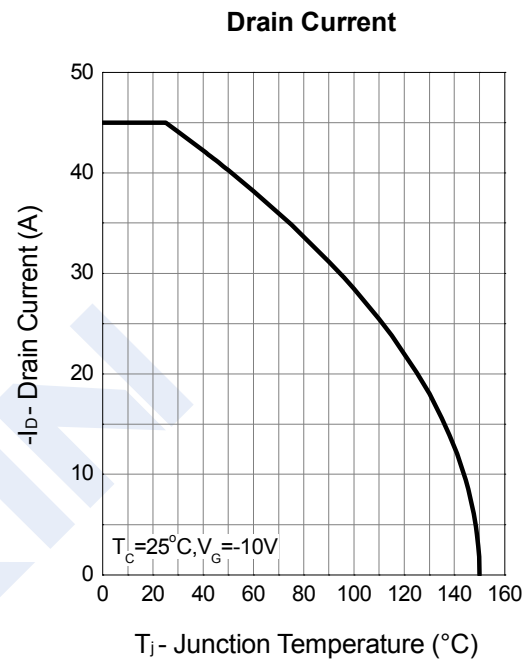
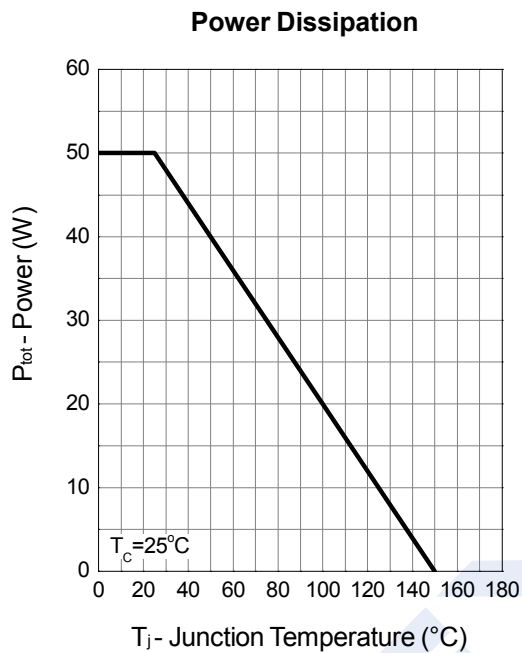
Note.2:Guaranteed by design, not subject to production testing.

Note.3:Surface Mounted on 1in² pad area, t ≤ 10 sec.

P-Channel Enhancement MOSFET

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■ Typical Characteristics

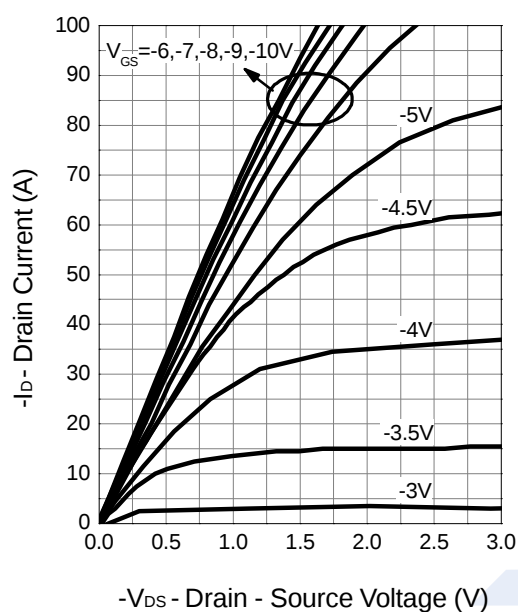


P-Channel Enhancement MOSFET

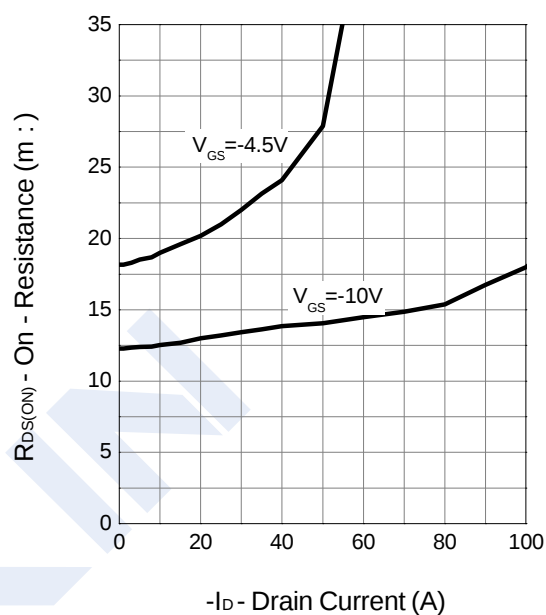
APM4015PU

μ Typical Characteristics

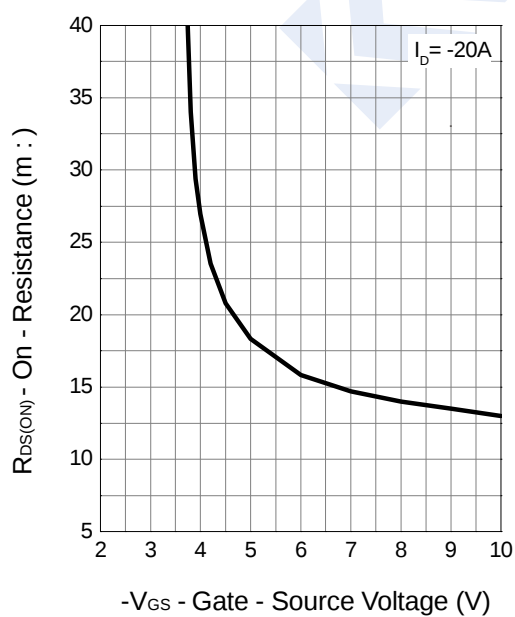
Output Characteristics



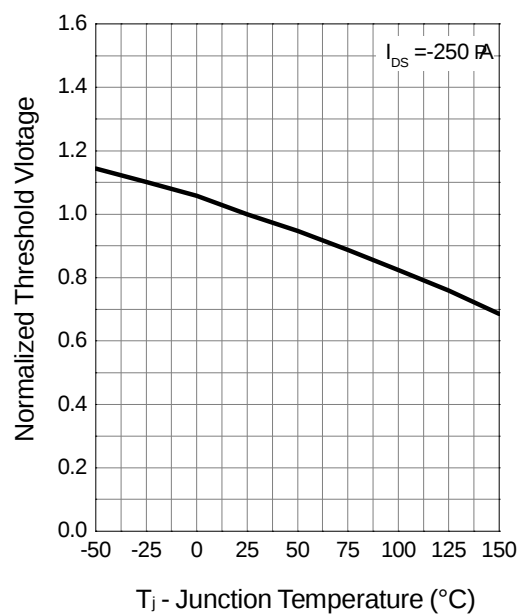
Drain-Source On Resistance



Drain-Source On Resistance



Gate Threshold Voltage

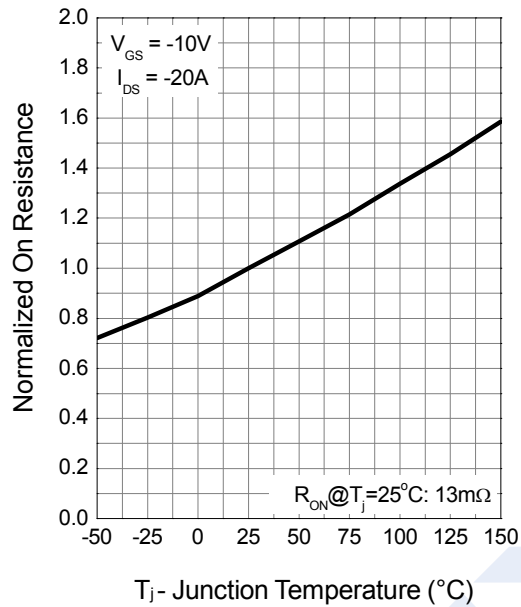


P-Channel Enhancement MOSFET

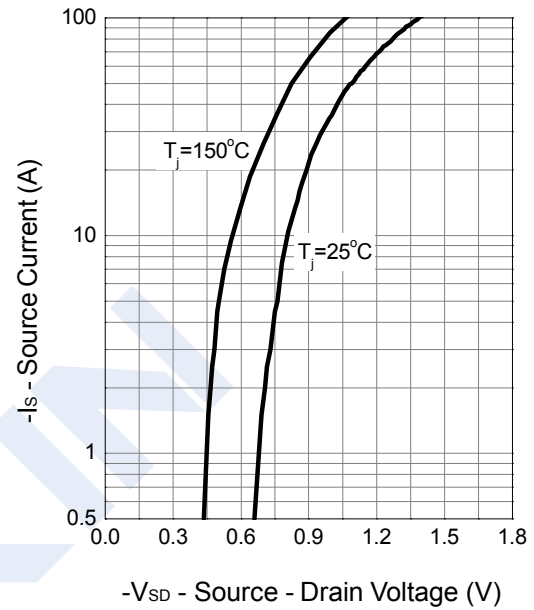
APM4015PU

■ Typical Characteristics

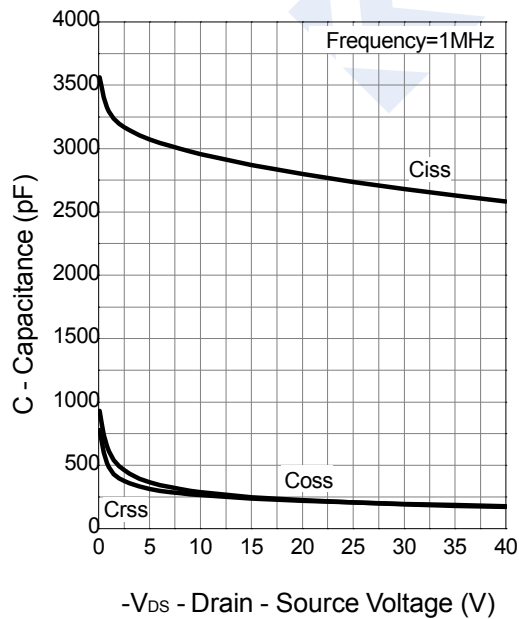
Drain-Source On Resistance



Source-Drain Diode Forward



Capacitance



Gate Charge

