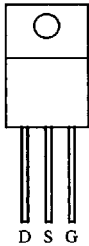


P-Channel Enhancement-Mode Transistor

Product Summary

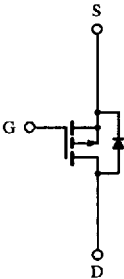
$V_{(BR)DSS}$ (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-200	0.500	-9.5

TO-254AA
Hermetic Package



Case Isolated

Top View



P-Channel MOSFET

Absolute Maximum Ratings ($T_C = 25^{\circ}\text{C}$ Unless Otherwise Noted)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	-200	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^{\circ}\text{C}$)	$T_C = 25^{\circ}\text{C}$	I_D	-9.5	A
	$T_C = 100^{\circ}\text{C}$		-6.1	
Pulsed Drain Current		I_{DM}	-38	
Maximum Power Dissipation	$T_C = 25^{\circ}\text{C}$	P_D	100	W
	$T_C = 100^{\circ}\text{C}$		40	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Lead Temperature ($1/16''$ from case for 10 sec.)		T_L	300	

6
N-/P-Channel
MOSFETs

Thermal Resistance Ratings

Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient	R_{thJA}		50	$^{\circ}\text{C/W}$
Maximum Junction-to-Case	R_{thJC}		1.25	
Case-to-Sink	R_{thCS}	0.2		

Specifications ($T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

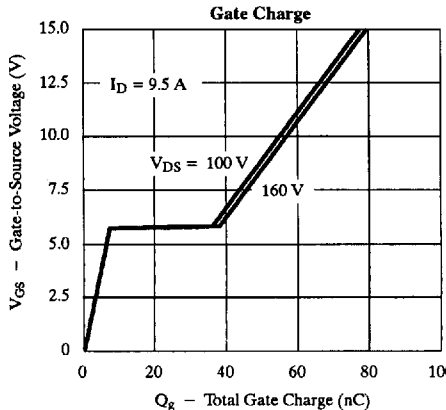
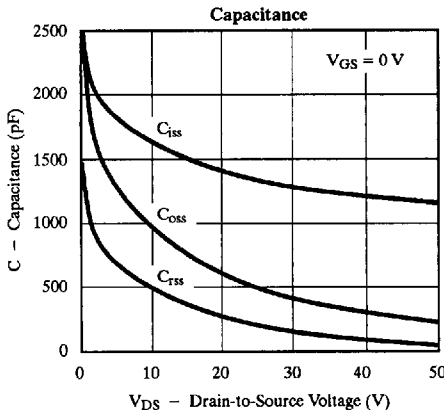
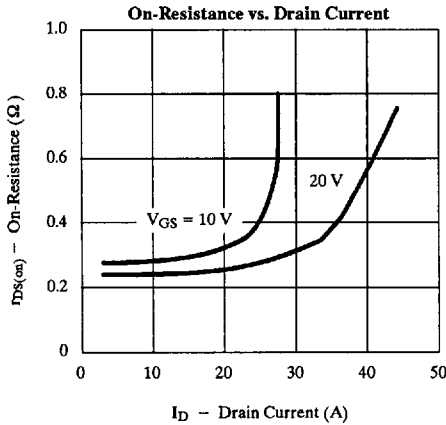
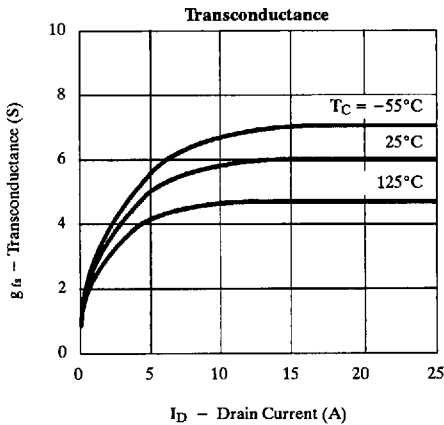
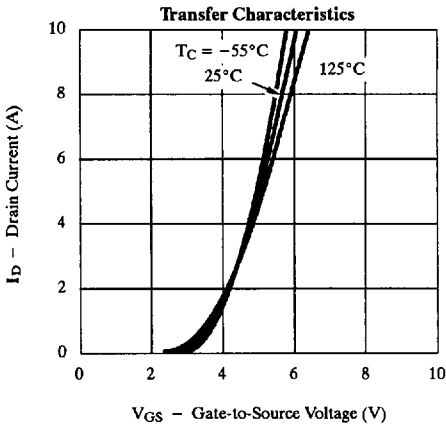
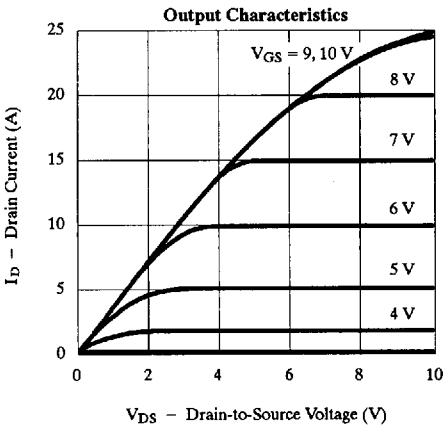
Parameter	Symbol	Test Condition	Limit			Unit
			Min	Typ ^a	Max	
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = -250 μA	-200			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-2.0		-4.0	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -160 V, V _{GS} = 0 V			-25	μA
		V _{DS} = -160 V, V _{GS} = 0 V, T _J = 125°C			-250	
On-State Drain Current ^b	I _{D(on)}	V _{DS} = -10 V, V _{GS} = -10 V	-9.5			A
Drain-Source On-State Resistance ^b	r _{DS(on)}	V _{GS} = -10 V, I _D = -6.1 A		0.28	0.500	Ω
		V _{GS} = -10 V, I _D = -6.1 A, T _J = 125°C		0.5	1.0	
Forward Transconductance ^b	g _{fs}	V _{DS} = -15 V, I _D = -6.1 A	4.0	4.8		S
Dynamic						
Input Capacitance	C _{iss}	V _{GS} = 0 V, V _{DS} = -25 V, f = 1 MHz		1300		pF
Output Capacitance	C _{oss}			450		
Reverse Transfer Capacitance	C _{rss}			200		
Total Gate Charge ^c	Q _g	V _{DS} = -100 V, V _{GS} = -10 V, I _D = -9.5 A		55	75	nC
Gate-Source Charge ^c	Q _{gs}			9.0	15	
Gate-Drain Charge ^c	Q _{gd}			30	45	
Turn-On Delay Time ^c	t _{d(on)}	V _{DD} = -100 V, R _L = 10.2 Ω I _D = -9.5 A, V _{GEN} = -10 V, R _G = 4.7 Ω		10	25	ns
Rise Time ^c	t _r			30	50	
Turn-Off Delay Time ^c	t _{d(off)}			35	80	
Fall Time ^c	t _f			16	40	
Source-Drain Diode Ratings and Characteristics						
Continuous Current	I _S				-9.5	A
Pulsed Current	I _{SM}				-38	
Diode Forward Voltage ^b	V _{SD}	I _F = -9.5 A, V _{GS} = 0 V			-2.0	V
Reverse Recovery Time	t _{rr}	I _F = -9.5 A, di/dt = 100 A/μs		200		ns
Reverse Recovery Charge	Q _{rr}			1.0		μC

Notes:

- For design aid only; not subject to production testing.
- Pulse test; pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.
- Independent of operating temperature.

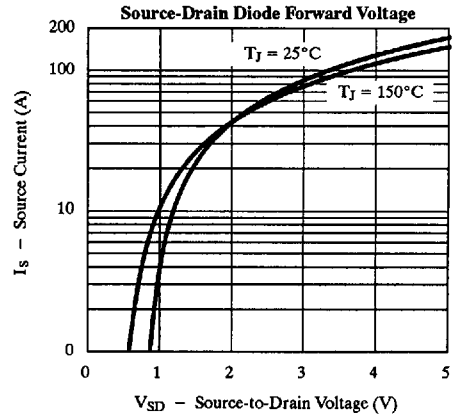
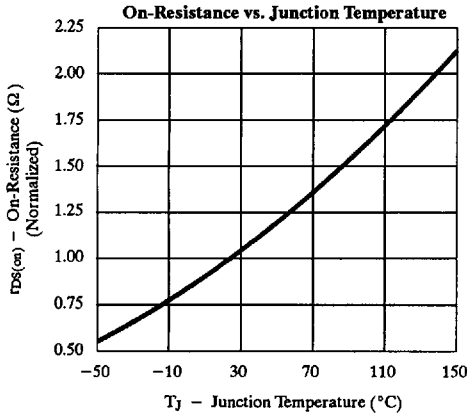
Typical Characteristics (25°C Unless Otherwise Noted)

Negative signs omitted for clarity.



Typical Characteristics (25°C Unless Otherwise Noted)

Negative signs omitted for clarity.



Thermal Ratings

