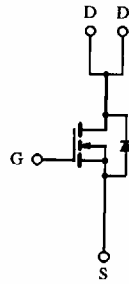
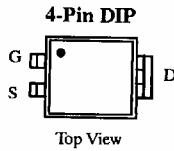


N-Channel Enhancement-Mode Transistor

Product Summary

$V_{(BR)DSS}$ (V)	$r_{DS(on)}$ (Ω)	I_D (A)
50	0.10	2.4



N-Channel MOSFET

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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	50	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	$T_A = 25^\circ\text{C}$	A
		$T_A = 100^\circ\text{C}$	
Pulsed Drain Current	I_{DM}	19	W
Power Dissipation	P_D	$T_A = 25^\circ\text{C}$	
		$T_A = 100^\circ\text{C}$	0.40
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	Maximum	Unit
Junction-to-Ambient	R_{thJA}	120	$^\circ\text{C/W}$

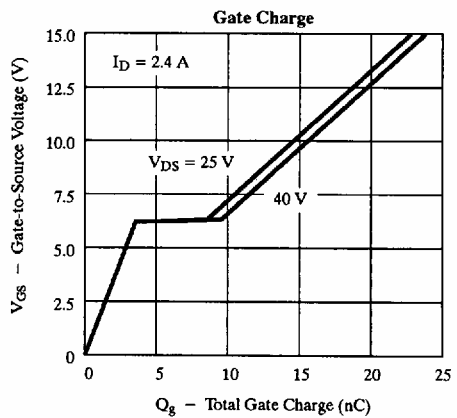
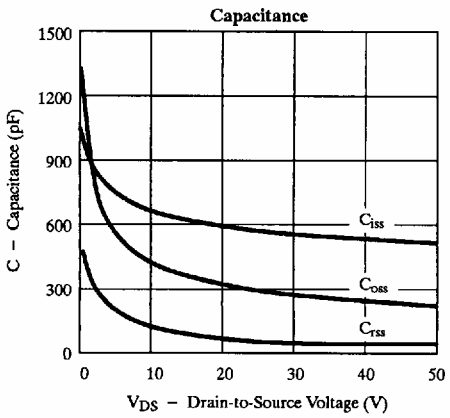
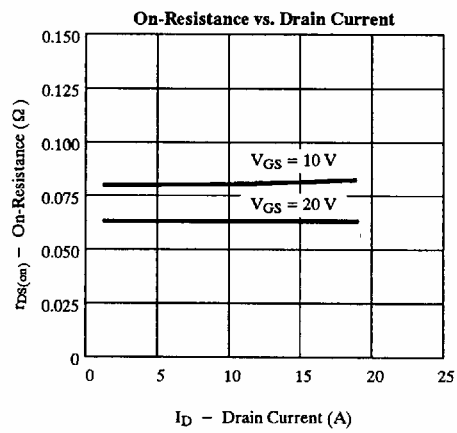
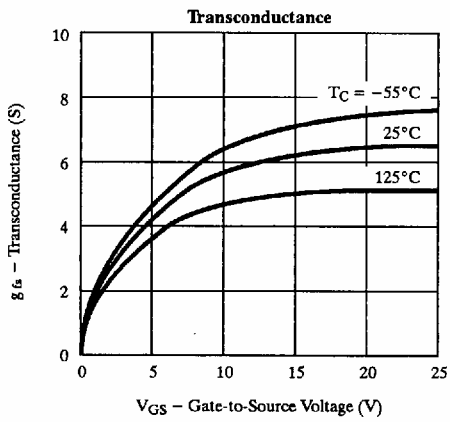
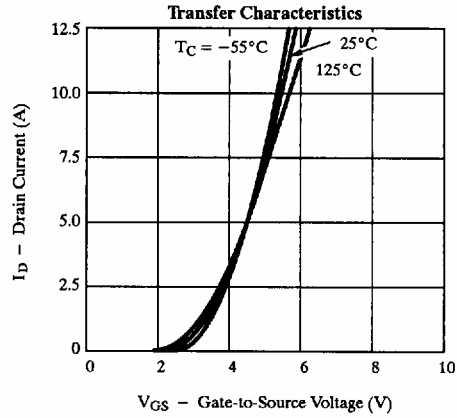
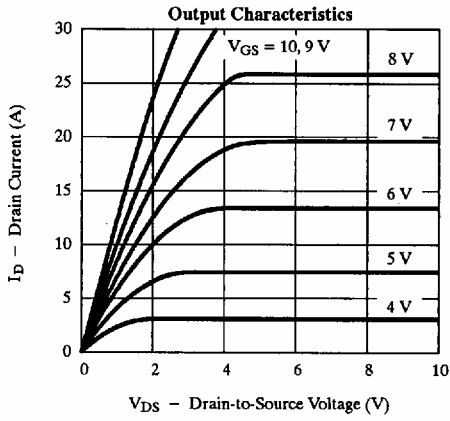
Specifications ($T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	50			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	2.0		4.0	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{ V}$			± 500	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 40\text{ V}, V_{GS} = 0\text{ V}$			250	μA
		$V_{DS} = 40\text{ V}, V_{GS} = 0\text{ V}, T_J = 125^\circ\text{C}$			1000	
On-State Drain Current ^b	$I_{D(on)}$	$V_{DS} = 2\text{ V}, V_{GS} = 10\text{ V}$	2.4			A
Drain-Source On-State Resistance ^b	$r_{DS(on)}$	$V_{GS} = 10\text{ V}, I_D = 1.4\text{ A}$		0.08	0.10	Ω
		$V_{GS} = 10\text{ V}, I_D = 1.4\text{ A}, T_J = 125^\circ\text{C}$		0.16	0.18	
Forward Transconductance ^b	g_{fs}	$V_{DS} = 15\text{ V}, I_D = 7.5\text{ A}$	4.9	5.5		S
Dynamic						
Input Capacitance	C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		550	850	pF
Output Capacitance	C_{oss}			300	350	
Reverse Transfer Capacitance	C_{rss}			80	100	
Total Gate Charge ^c	Q_g	$V_{DS} = 25\text{ V}, V_{GS} = 10\text{ V}, I_D = 15\text{ A}$		13	24	nC
Gate-Source Charge ^c	Q_{gs}			3.5		
Gate-Drain Charge ^c	Q_{gd}			5		
Turn-On Delay Time ^c	$t_{d(on)}$	$V_{DD} = 25\text{ V}, R_{JL} = 1.7\ \Omega$ $I_D \approx 15\text{ A}, V_{GEN} = 10\text{ V}, R_G = 18\ \Omega$		10	13	ns
Rise Time ^c	t_r			60	83	
Turn-Off Delay Time ^c	$t_{d(off)}$			30	40	
Fall Time ^c	t_f			35	50	
Source-Drain Diode Ratings and Characteristics ($T_A = 25^\circ\text{C}$)						
Continuous Current	I_S				2.4	A
Pulsed Current	I_{SM}				19	
Forward Voltage ^b	V_{SD}	$I_F = 2.4\text{ A}, V_{GS} = 0\text{ V}$			1.25	V
Reverse Recovery Time	t_{rr}	$I_F = 2.4\text{ A}, di_F/dt = 100\text{ A}/\mu\text{s}$		65		ns
Reverse Recovery Charge	Q_{rr}			0.16	0.85	μC

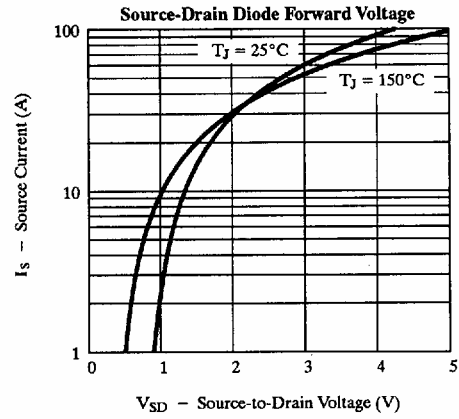
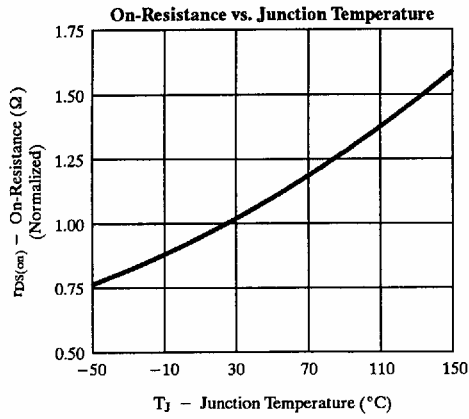
Notes:

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

Typical Characteristics (25°C Unless Otherwise Noted)



Typical Characteristics (25°C Unless Otherwise Noted)



Thermal Ratings

