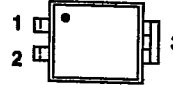


4-PIN DIP
(Similar to TO-250)

TOP VIEW



- 1 GATE
- 2 SOURCE
- 3 DRAIN

PRODUCT SUMMARY

$V_{(BR)DSS}$ (V)	$r_{DS(ON)}$ (Ω)	I_D (A)
-60	1.0	-0.70

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)¹

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_A = 25^\circ\text{C}$	I_D	0.70	A
	$T_A = 100^\circ\text{C}$		0.45	
Pulsed Drain Current ²		I_{DM}	10	
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	1.0	W
	$T_A = 100^\circ\text{C}$		0.4	
Operating Junction & 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	

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THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	R_{thJA}		120	K/W

¹Negative signs for current and voltage ratings have been omitted for the sake of clarity.
²Pulse width limited by maximum junction temperature.

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ELECTRICAL CHARACTERISTICS (T_J = 25°C Unless Otherwise Noted)
 P-Channel Device - Negative Signs Have Been Omitted for Clarity

PARAMETER	SYMBOL	TEST CONDITIONS	TYP	LIMITS		UNIT
				MIN	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = 250 μA		60		V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 1000 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} = V _{(BR)DSS} , V _{GS} = 0 V			250	μA
		V _{DS} = 0.8 × V _{(BR)DSS} , V _{GS} = 0 V, T _J = 125°C			1000	
On-State Drain Current ¹	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V		0.7		A
Drain-Source On-State Resistance ¹	r _{DS(on)}	V _{GS} = 10 V, I _D = 0.70 A	0.85		1.0	Ω
		V _{GS} = 10 V, I _D = 0.70 A, T _J = 125°C	1.6		1.9	
Forward Transconductance ¹	g _{fs}	V _{DS} = 15 V, I _D = 2 A	0.90	0.50		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0 V, V _{DS} = 25 V, f = 1 MHz	200		290	pF
Output Capacitance	C _{oss}		110		160	
Reverse Transfer Capacitance	C _{rss}		25		60	
Total Gate Charge ²	Q _g	V _{DS} = 0.8 × V _{(BR)DSS} , V _{GS} = 10 V, I _D = 0.7 A	6.1		7.5	nC
Gate-Source Charge ²	Q _{gs}		0.8			
Gate-Drain Charge ²	Q _{gd}		3.5			
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 40 V, R _L = 40 Ω I _D ≈ 1 A, V _{GEN} = 10 V, R _G = 25 Ω	8		20	ns
Rise Time ²	t _r		9		20	
Turn-Off Delay Time ²	t _{d(off)}		16		25	
Fall Time ²	t _f		25		30	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_A = 25°C)						
Continuous Current	I _S				0.70	A
Pulsed Current ³	I _{SM}				10	
Forward Voltage ¹	V _{SD}	I _F = I _S , V _{GS} = 0 V	1.3		1.8	V
Reverse Recovery Time	t _{rr}	I _F = I _S , dI _F /dt = 100 A/μs	60			ns
Reverse Recovery Charge	Q _{rr}		0.15			μC

¹Pulse test: Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

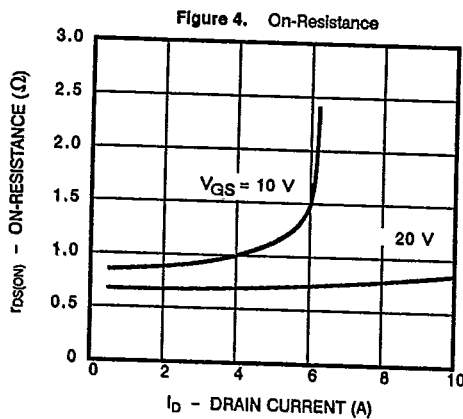
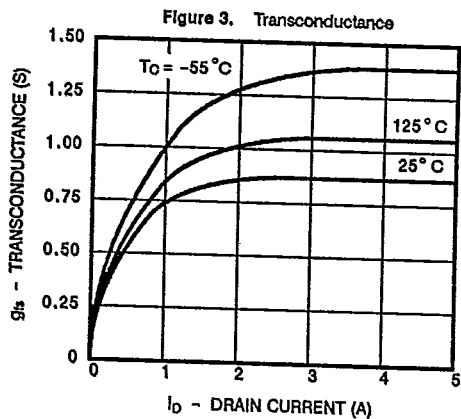
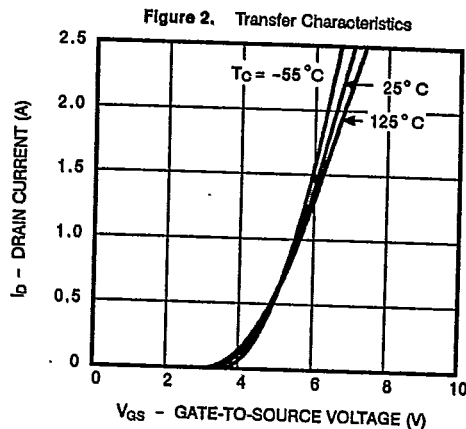
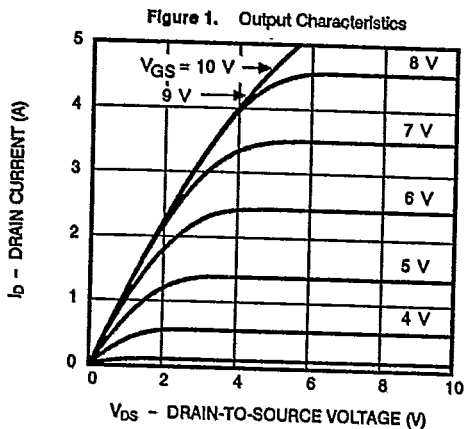
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature).

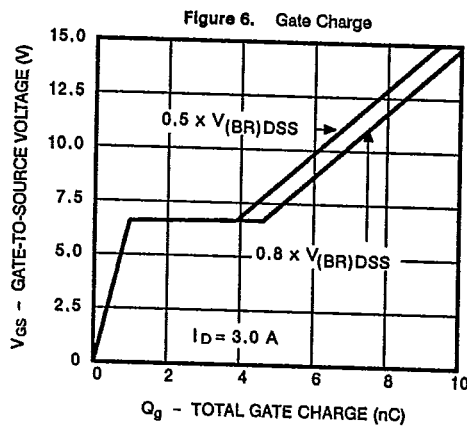
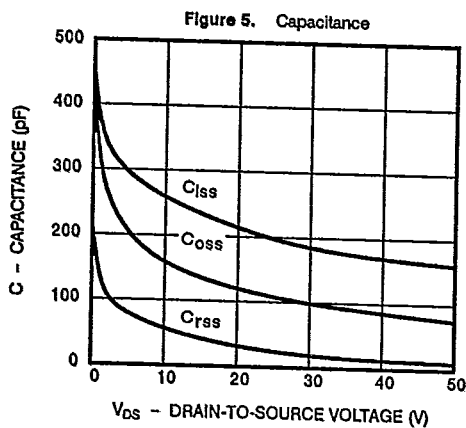


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TYPICAL CHARACTERISTICS (25°C Unless Otherwise Specified)



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TYPICAL CHARACTERISTICS (Cont'd)

Figure 7. On-Resistance vs. Junction Temperature

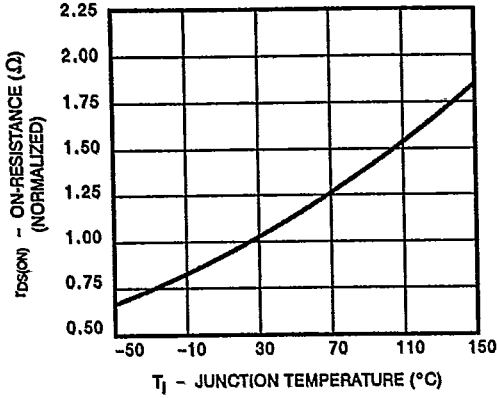
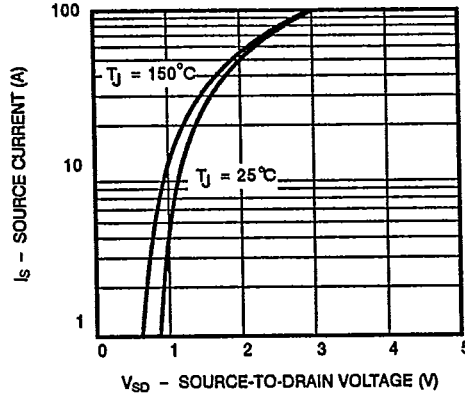


Figure 8. Source-Drain Diode Forward Voltage



THERMAL RATINGS

Figure 9. Maximum Drain Current vs. Ambient Temperature

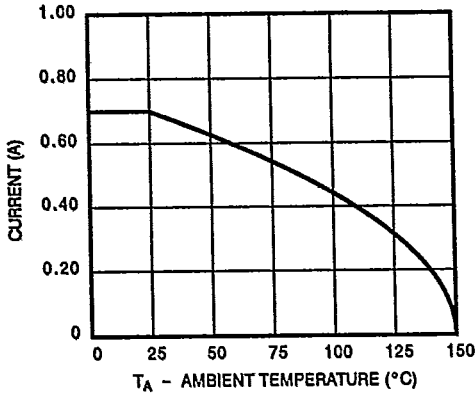


Figure 10. Safe Operating Area

