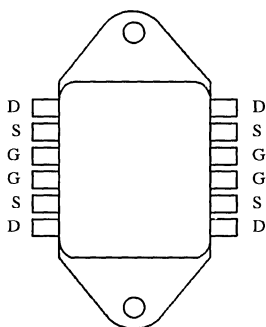


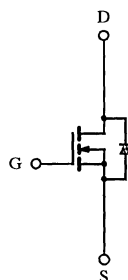
Four N-Channel Enhancement-Mode Transistors

Product Summary

$V_{(BR)DSS}$ (V)	$r_{DS(on)}$ (Ω)	I_D (A)
500	0.43	13



Leadform Options
 MOD500B . . . Bent Down
 MOD500C . . . Bent Up



N-Channel MOSFET

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

Parameter	Symbol	Single Die	All Die	Unit
Drain-Source Voltage	V_{DS}	500	500	V
Gate-Source Voltage	V_{GS}	± 20	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	I_D	$T_C = 25^\circ\text{C}$	13	A
		$T_C = 100^\circ\text{C}$	8	
Pulsed Drain Current	I_{DM}	52	164	
Avalanche Current	I_A	13		
Maximum Power Dissipation	P_D	$T_C = 25^\circ\text{C}$	150	W
		$T_C = 100^\circ\text{C}$	60	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$
Isolation Voltage	V_{ISOL}	1000		V

Thermal Resistance Ratings

Parameter	Symbol	Typical	Single Die	All Die	Unit
Maximum Junction-to-Ambient	R_{thJA}		30	30	$^\circ\text{C}/\text{W}$
Maximum Junction-to-Case	R_{thJC}		0.83	0.31	
Case-to-Sink	R_{thCS}	0.1			

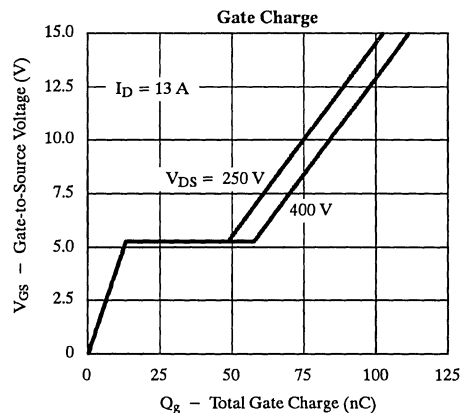
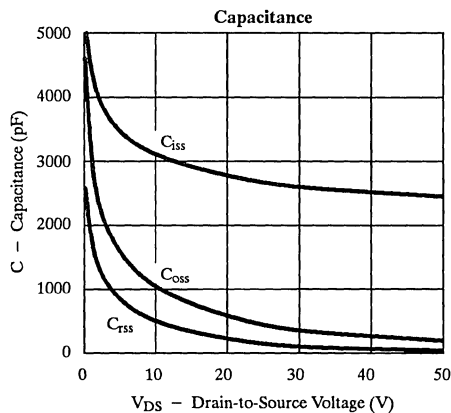
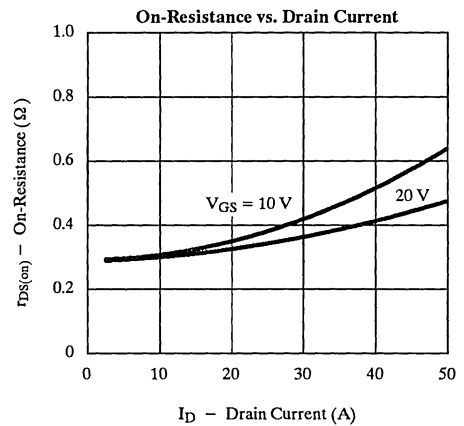
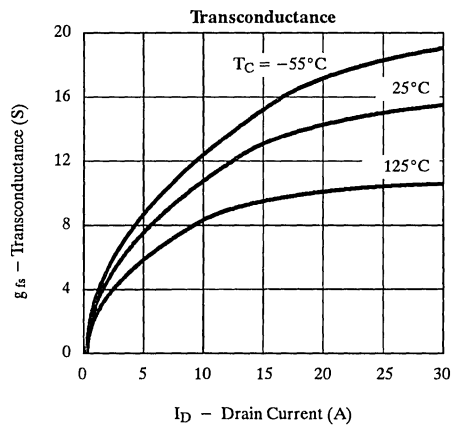
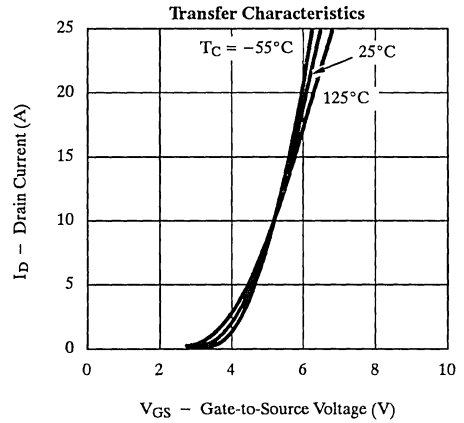
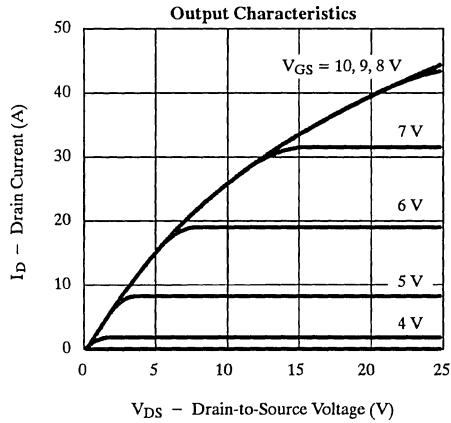
Specifications ($T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Limit			Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	500			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \text{mA}$	2.0		4.0	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\ \text{V}, V_{GS} = \pm 20\ \text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 500\ \text{V}, V_{GS} = 0\ \text{V}$			250	μA
		$V_{DS} = 400\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 125^\circ\text{C}$			1000	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} = 10\ \text{V}, V_{GS} = 10\ \text{V}$	13			A
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = 10\ \text{V}, I_D = 7\ \text{A}$		0.33	0.43	Ω
		$V_{GS} = 10\ \text{V}, I_D = 7\ \text{A}, T_J = 125^\circ\text{C}$		0.66	0.88	
Forward Transconductance ^a	g_{fs}	$V_{DS} = 15\ \text{V}, I_D = 7\ \text{A}$	6.0	9.0		S
Dynamic						
Input Capacitance	C_{iss}	$V_{GS} = 0\ \text{V}, V_{DS} = 25\ \text{V}, f = 1\ \text{MHz}$		2700		pF
Output Capacitance	C_{oss}			410		
Reverse Transfer Capacitance	C_{rss}			140		
Total Gate Charge ^b	Q_g	$V_{DS} = 250\ \text{V}, V_{GS} = 10\ \text{V}, I_D = 13\ \text{A}$		90	120	nC
Gate-Source Charge ^b	Q_{gs}			12	19	
Gate-Drain Charge ^b	Q_{gd}			47	70	
Turn-On Delay Time ^b	$t_{d(on)}$	$V_{DD} = 210\ \text{V}, R_L = 30\ \Omega$ $I_D = 7\ \text{A}, V_{GEN} = 10\ \text{V}, R_G = 4.7\ \Omega$		13	35	ns
Rise Time ^b	t_r			26	50	
Turn-Off Delay Time ^b	$t_{d(off)}$			55	150	
Fall Time ^b	t_f			17	70	
Source-Drain Diode Ratings and Characteristics						
Continuous Current	I_S				13	A
Pulsed Current	I_{SM}				52	
Diode Forward Voltage ^a	V_{SD}	$I_F = 13\ \text{A}, V_{GS} = 0\ \text{V}$			2.0	V
Reverse Recovery Time	t_{rr}	$I_F = 13\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		300		ns
Reverse Recovery Charge	Q_{rr}			2.0		μC

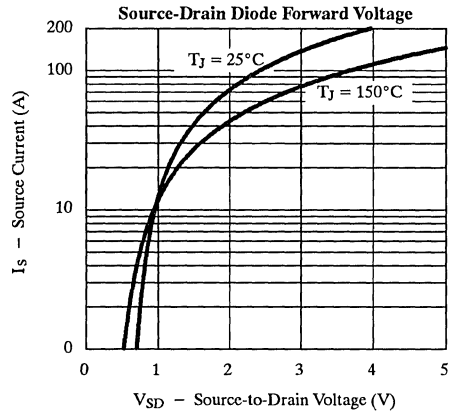
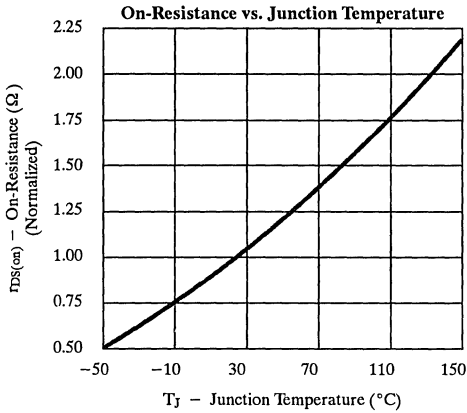
Notes:

- a. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.
- b. Independent of operating temperature.

Typical Characteristics (25°C Unless Otherwise Noted)



Typical Characteristics (25°C Unless Otherwise Noted)



Thermal Ratings

