MPF4093

CASE 29-03, STYLE 5
TO-92 (TO-226AA)

JFET
SWITCHING

N-CHANNEL — DEPLETION

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Gate-Source Voltage	V_{GS}	−40	Vdc
Gate Current	I_G	10	mA
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	350 3.0	mW mW/°C
Lead Temperature (1/16" from Case for 10 Seconds)	T_L	300	°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Gate-Source Breakdown Voltage (I_G = 1.0 μA, V_{DS} = 0)	$V_{(BR)GSS}$	−40	—	Vdc
Gate Reverse Current (V_{DG} = −20 V, I_S = 0)	I_{DGO}	—	1.0	nA
Drain-Gate Leakage (V_{DG} = −20 V, I_S = 0, T_A = 150°C)	I_{DGO}	—	400	nA
Drain Cutoff Current (V_{DS} = 20 V, V_{GS} = −6.0 V)	$I_{D(off)}$	—	1.0	nA
Drain-Gate "OFF" Current (V_{DS} = 20 V, V_{GS} = −6.0 V, T_A = 150°C)	$I_{D(off)}$	—	400	nA
Gate 1 to Source Cutoff Voltage (V_{DS} = 20 V, I_D = 1.0 nA)	$V_{G1S(off)}$	−1.0	−5.0	Vdc
ON CHARACTERISTICS				
Zero-Gate-Voltage Drain Current (V_{DS} = 20 V, V_{GS} = 0)	I_{DSS}	8.0	—	mA
Drain-Source On-Voltage (V_{GS} = 0, I_D = 2.5 mA)	$V_{DS(on)}$	—	0.2	Vdc
Static Drain-Source On Resistance (V_{GS} = 0, I_D = 1.0 mA) (V_{GS} = 0, I_D = 0, f = 1.0 kHz)	$r_{DS(on)}$	 — —	 80 80	Ω
SMALL-SIGNAL CHARACTERISTICS				
Input Capacitance (V_{DS} = 20 V, V_{GS} = 0, f = 1.0 MHz)	C_{iss}	—	16	pF
Reverse Transfer Capacitance (V_{DS} = 0, V_{GS} = −20 V, f = 1.0 MHz)	C_{rss}	—	5.0	pF
SWITCHING CHARACTERISTICS				
Delay Time	t_d	—	20	ns
Rise Time	t_r	—	40	ns
Turn-Off Time	t_{off}	—	80	ns