

MFE3002

CASE 20-03, STYLE 7
TO-72 (TO-206AF)

MOSFET
CHOPPER

N-CHANNEL — ENHANCEMENT

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	15	Vdc
Drain-Gate Voltage	V_{DG}	20	Vdc
Gate-Source Voltage	V_{GS}	± 20	Vdc
Drain Current	I_D	30	mA _{dc}
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	200 1.4	mW mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to $+175$	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Zero-Gate-Voltage Drain Current ($V_{DS} = +10$ Vdc, $V_{GS} = 0$) ($V_{DS} = +10$ Vdc, $V_{GS} = 0$, $T_C = 125^\circ\text{C}$)	I_{DSS}	—	10 100	nA _{dc}
Gate Reverse Current ($V_{GS} = \pm 10$ Vdc, $V_{DS} = 0$)	I_{GSS}	—	± 100	pA _{dc}
Drain-Source Breakdown Voltage ($V_{GS} = 0$, $I_D = 10$ μ A _{dc})	$V_{(BR)DS}$	15	—	Vdc
ON CHARACTERISTICS				
Gate Threshold Voltage ($V_{DS} = +10$ Vdc, $I_D = 10$ μ A _{dc})	$V_{GS(TH)}$	—	3.0	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Input Capacitance ($V_{DS} = +10$ Vdc, $V_{GS} = 0$, $f = 1.0$ MHz)	C_{iss}	—	5.0	pF
Reverse Transfer Capacitance ($V_{DS} = 0$, $V_{GS} = 0$, $f = 1.0$ MHz)	C_{rss}	—	1.0	pF
Drain-Substrate Capacitance ($V_{D(SUB)} = +10$ Vdc, $f = 1.0$ MHz)	$C_{d(sub)}$	—	4.0	pF
Static Drain-Source On Resistance ($V_{GS} = +10$ Vdc, $I_D = 0$, $f = 1.0$ kHz)	$r_{ds(on)}$	—	100	Ohms