

MFE3003

CASE 20-03, STYLE 5
TO-72 (TO-206AF)

MOSFET
CHOPPER

P-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 1.33	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
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OFF CHARACTERISTICS

Drain-Source Breakdown Voltage ($V_{GS} = 0, I_D = -10 \mu\text{A}_{dc}$)	$V_{(BR)DSX}$	-15	—	Vdc
Zero-Gate-Voltage Drain Current ($V_{DS} = -10 \text{ Vdc}, V_{GS} = 0$) ($V_{DS} = -10 \text{ Vdc}, V_{GS} = 0, T_C = 125^\circ\text{C}$)	I_{DSS}	— —	-10 -100	nA _{dc}
Gate Reverse Current ($V_{GS} = \pm 10 \text{ Vdc}, V_{DS} = 0$)	I_{GSS}	—	± 100	pA _{dc}

ON CHARACTERISTICS

Gate Threshold Voltage ($V_{DS} = -10 \text{ Vdc}, I_D = -10 \mu\text{A}_{dc}$)	$V_{GS(Th)}$	—	-4.0	Vdc
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SMALL-SIGNAL CHARACTERISTICS

Drain-Source Resistance ($V_{GS} = -10 \text{ Vdc}, I_D = 0, f = 1.0 \text{ kHz}$)	$r_{ds(on)}$	—	200	Ohms
Input Capacitance ($V_{DS} = -10 \text{ Vdc}, V_{GS} = 0, f = 1.0 \text{ MHz}$)	C_{iss}	—	4.0	pF
Reverse Transfer Capacitance ($V_{DS} = 0, V_{GS} = 0, f = 1.0 \text{ MHz}$)	C_{rss}	—	1.0	pF
Drain-Substrate Capacitance ($V_{D(SUB)} = -10 \text{ Vdc}, f = 1.0 \text{ MHz}$)	$C_{d(sub)}$	—	2.0	pF