

SILICON MOS N-CHANNEL RF POWER TRANSISTOR 150 W, up to 30 MHz, Enhancement Mode

MRF150

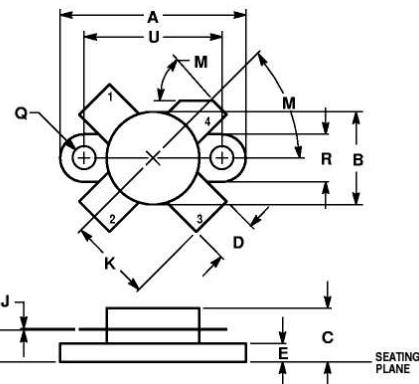
The silicon MOS transistor is designed for professional transmitter applications in the HF frequency range.

- Guaranteed Performance at 30 MHz, 50 V:
- Power Gain 17 dB typ
- Output Power: 150 W
- Efficiency: 45 % typ

Absolute Maximum Ratings

Parameters	Sym	Value	Unit
Drain-Source Voltage	V _{DSS}	125	V _{DC}
Drain Current-Continuous	I _D	16	A _{DC}
Gate-Source Voltage	V _{GS}	±40	V _{DC}
Storage Temperature Range	T _{STG}	-65 tu +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	0.6	°C/W
Total Power Dissipation @T _c =25 °C	P _D	300	W

CASE 211-11



STYLE 2:
 1. SOURCE
 2. GATE
 3. SOURCE
 4. DRAIN

NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.960	0.990	24.39	25.14
B	0.465	0.510	11.82	12.95
C	0.228	0.275	5.82	6.98
D	0.216	0.235	5.49	5.96
E	0.084	0.110	2.14	2.79
H	0.144	0.178	3.66	4.52
J	0.003	0.007	0.08	0.17
K	0.435	—	11.05	—
M	45°NOM	45°NOM	—	—
Q	0.115	0.130	2.93	3.30
R	0.246	0.255	6.25	6.47
U	0.720	0.730	18.29	18.54

Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage (I _D =100.0 mA, V _{GS} =0 V)	V _{(BR)DSS}	125	—	—	V _{DC}
Gate-Source Leakage Current (V _{GS} =20 V, V _{DS} =0 V)	I _{GSS}	—	—	1.0	μA _{DC}
Zero Gate Voltage Drain Leakage Current (V _{DS} = 50 V, V _{GS} =0 V)	I _{DSS}	—	—	5.0	mA _{DC}
Gate Threshold Voltage (V _{DS} = 10 V, I _D = 100 mA)	V _{GS(TH)}	1.0	—	5.0	V _{DC}
Forward Transconductance (V _{DS} = 10 V, I _D = 5.0 A)	G _{FS}	4.0	7.0	—	mhos
Input Capacitance (V _{DS} = 50 V, V _{GS} =0 V, f = 1 MHz)	C _{ISS}	—	400	—	pF
Output Capacitance (V _{DS} = 50 V, V _{GS} =0 V, f = 1 MHz)	C _{OSS}	—	240	—	pF
Reverse Transfer Capacitance (V _{DS} = 50 V, V _{GS} =0 V, f = 1 MHz)	C _{RSS}	—	40	—	pF
Power Gain (f = 30 MHz, V _{DD} = 50 V, P _{OUT} =150 W(PEP), I _{DQ} . = 250 mA)	G _p	—	17	—	dB
Drain Efficiency (f = 30; 30.001 MHz, V _{DD} = 50 V, P _{OUT} = 150 W(PEP), I _{DQ} . = 250 mA)	η _D	—	45	—	%
Intermodulation Distortion (V _{DD} = 50 V, Pout = 150 W (PEP), f1 = 30 MHz, f2 = 30.001 MHz, I _{DQ} = 250 mA)	IMD	—	-32	—	dB

ZAO ‘Syntez Microelectronics’

119V Leninsky Prospekt, Voronezh 394007, Russia • Tel +7-4732-379-101 Fax +7-4732-266-057