SYNTEZ
MICROELECTRONICS

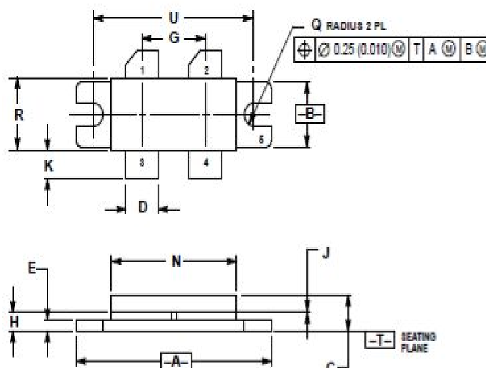
SILICON MOS N-CHANNEL RF POWER TRANSISTOR
150 W, up to 500 MHz, Enhancement Mode

MRF175GU

Designed primarily for wideband large–signal output and driver from 30–500 MHz.

Features:

- Performance at 400 MHz, 28 Vdc
- Power Gain: 10 dB Min
- Output Power: 150 W
- Efficiency: 55 % Min



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

DIM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	1.330	1.350	33.79	34.29
B	0.370	0.410	9.40	10.41
C	0.190	0.230	4.83	5.84
D	0.215	0.235	5.47	5.96
E	0.050	0.070	1.27	1.77
G	0.430	0.440	10.92	11.18
H	0.102	0.112	2.59	2.84
J	0.004	0.006	0.11	0.15
K	0.185	0.215	4.83	5.33
N	0.845	0.875	21.46	22.23
Q	0.060	0.070	1.52	1.78
R	0.390	0.410	9.91	10.41
U	1.100 BSC		27.94 BSC	

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

CASE 375–04

Absolute Maximum Ratings

Parameters	Sym	Value	Unit
Drain-Source Voltage	V_{DSS}	65	V_{DC}
Drain Current-Continuous	I_D	8.0	A_{DC}
Gate-Source Voltage	V_{GS}	±40	V_{DC}
Storage Temperature Range	T_{STG}	-65 tu +150	ºC
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.44	ºC/W
Total Power Dissipation @T_C=25 ºC	P_D	400	W

Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage (I_D=5.0 mA, V_{GS}=0 V)	$V_{(BR)DSS}$	65	—	—	V_{DC}
Gate-Source Leakage Current (V_{GS}=20 V, V_{DS}=0 V) (1)	I_{GSS}	—	—	1.0	μA_{DC}
Zero Gate Voltage Drain Leakage Current (V_{DS} = 28 V, V_{GS}=0 V) (1)	I_{DSS}	—	—	2.5	mA_{DC}
Gate Threshold Voltage (V_{DS} = 10 V, I_D = 25 mA) (1)	$V_{GS(TH)}$	1	—	6	V_{DC}
Forward Transconductance (V_{DS} = 10 V, I_D = 2.5 A) (1)	G_{FS}	2	3	—	mhos
Input Capacitance (V_{DS} = 28 V, V_{GS}=0 V, f = 1 MHz) (1)	C_{ISS}	—	180	—	pF
Output Capacitance (V_{DS} = 28 V, V_{GS}=0 V, f = 1 MHz) (1)	C_{OSS}	—	200	—	pF
Reverse Transfer Capacitance (V_{DS} = 28 V, V_{GS}=0 V, f = 1 MHz) (1)	C_{RSS}	—	20	—	pF
Power Gain (V_{DS} = 28 V, P_{OUT} = 150W, $I_{DQ.}$ = 200 mA, f = 400 MHz)	Gp	10	12	—	dB
Drain Efficiency (V_{DS} = 28 V, P_{OUT} = 150 W, $I_{DQ.}$ = 200 mA, f = 400 MHz)	η_D	50	55	—	%

(1) Each transistor chip measured separately.

ZAO ‘Syntez Microelectronics’

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

exim@syntezmicro.ru

www.syntezmicro.ru

Specification is subject to change without notice