SYNTEZ MICROELECTRONICS

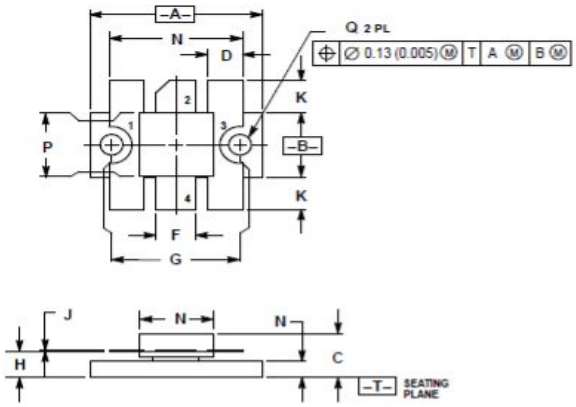
SILICON MOS N-CHANNEL RF POWER TRANSISTOR
100 W, up to 400 MHz, Enhancement Mode

MRF175LU

Designed primarily for wideband large–signal output and driver from 30–400 MHz.

Features:

- Performance at 400 MHz, 28 Vdc
- Power Gain: 8 dB Min
- Output Power: 100 W
- Efficiency: 55 % Min



CASE 333–04

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

DIM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	0.965	0.985	24.51	25.02
B	0.390	0.410	9.91	10.41
C	0.250	0.290	6.73	7.36
D	0.190	0.210	4.83	5.33
E	0.095	0.115	2.42	2.92
F	0.215	0.235	5.47	5.96
G	0.725 BSC		18.42 BSC	
H	0.155	0.175	3.94	4.44
J	0.004	0.006	0.10	0.15
K	0.195	0.205	4.95	5.21
L	0.740	0.770	18.80	19.55
N	0.415	0.425	10.54	10.80
P	0.390	0.400	9.91	10.16
Q	0.120	0.135	3.05	3.42

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	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.65	°C/W
Total Power Dissipation @T_C=25 °C	P_D	270	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)	I_{DSS}	—	—	2.5	mA_{DC}
Gate Threshold Voltage (V_{DS} = 10 V, I_D = 100 mA)	$V_{GS(TH)}$	1	—	6	V_{DC}
Forward Transconductance (V_{DS} = 10 V, I_D = 2.5 A)	G_{FS}	2	3	—	mhos
Input Capacitance (V_{DS} = 28 V, V_{GS}=0 V, f = 1 MHz)	C_{ISS}	—	180	—	pF
Output Capacitance (V_{DS} = 28 V, V_{GS}=0 V, f = 1 MHz)	C_{OSS}	—	200	—	pF
Reverse Transfer Capacitance (V_{DS} = 28 V, V_{GS}=0 V, f = 1 MHz)	C_{RSS}	—	20	—	pF
Power Gain (V_{DS} = 28 V, P_{OUT} = 100W, $I_{DQ.}$ = 100 mA, f = 400 MHz)	Gp	8	10	—	dB
Drain Efficiency (V_{DS} = 28 V, P_{OUT} = 100 W, $I_{DQ.}$ = 100 mA, f = 400 MHz)	η_D	55	60	—	%

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