

SILICON MOS N-CHANNEL RF POWER TRANSISTOR

150 W, up to 30 MHz, Enhancement Mode

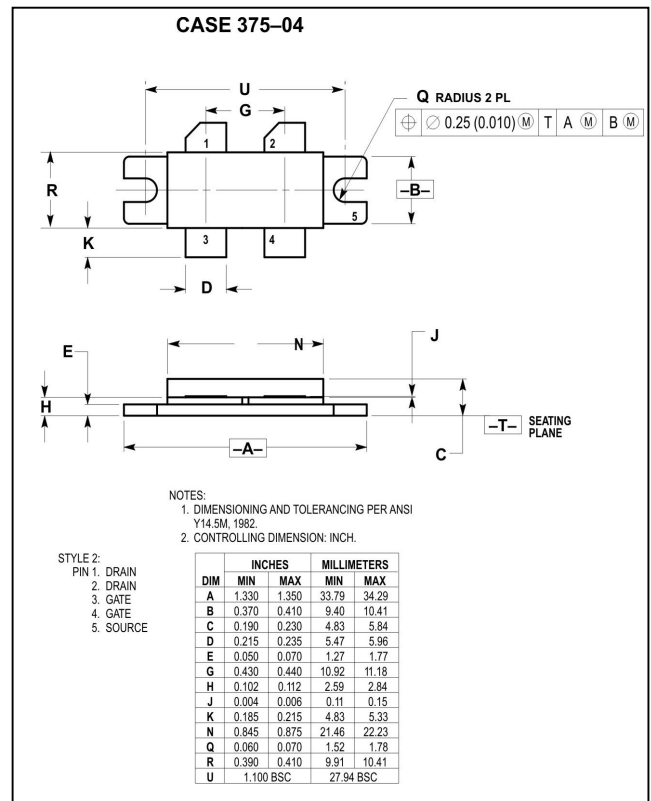
MRF141G

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

- Guaranteed Performance at 175 MHz, 28 V:
- Output Power: 150 W
- Power Gain 12 dB
- Efficiency: 45 %

Absolute Maximum Ratings

Parameters	Sym	Value	Unit
Drain-Source Voltage	V_{DSS}	65	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	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.35	$^{\circ}C/W$
Total Power Dissipation @ $T_C=25^{\circ}C$	P_D	500	W



Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage ($I_D=100.0 \text{ mA}$, $V_{GS}=0 \text{ V}$)	$V_{(BR)DSS}$	65	—	—	V_{DC}
Gate-Source Leakage Current ($V_{GS}=20 \text{ V}$, $V_{DS}=0 \text{ V}$)	I_{GSS}	—	—	1.0	μA_{DC}
Zero Gate Voltage Drain Leakage Current ($V_{DS} = 28 \text{ V}$, $V_{GS}=0 \text{ V}$)	I_{DSS}	—	—	5.0	mA_{DC}
Gate Threshold Voltage ($V_{DS} = 10 \text{ V}$, $I_D = 100 \text{ mA}$)	$V_{GS(TH)}$	1.0	—	5.0	V_{DC}
Forward Transconductance ($V_{DS} = 10 \text{ V}$, $I_D = 5.0 \text{ A}$)	G_{FS}	5.0	7.0	—	mhos
Input Capacitance ($V_{DS} = 28 \text{ V}$, $V_{GS}=0 \text{ V}$, $f = 1 \text{ MHz}$)	C_{ISS}	—	450	—	pF
Output Capacitance ($V_{DS} = 28 \text{ V}$, $V_{GS}=0 \text{ V}$, $f = 1 \text{ MHz}$)	C_{OSS}	—	320	—	pF
Reverse Transfer Capacitance ($V_{DS} = 28 \text{ V}$, $V_{GS}=0 \text{ V}$, $f = 1 \text{ MHz}$)	C_{RSS}	—	35	—	pF
Power Gain ($f = 175 \text{ MHz}$, $V_{DD} = 28 \text{ V}$, $P_{OUT} = 300 \text{ W}$, $I_{DQ} = 500 \text{ mA}$)	G_p	12	14	—	dB
Drain Efficiency ($f = 175 \text{ MHz}$, $V_{DD} = 28 \text{ V}$, $P_{OUT} = 300 \text{ W}$, $I_{DQ} = 500 \text{ mA}$)	η_D	45	55	—	%

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Specification is subject to change without notice