

RF FIELD-EFFECT POWER TRANSISTOR

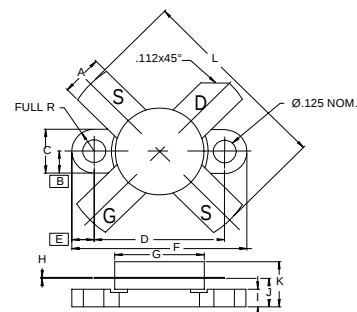
DESCRIPTION:

The **MRF141** is a N-Channel Enhancement-Mode MOSFET RF Power Transistor Designed for 175 MHz 150 W Transmitter and Amplifier Applications.

MAXIMUM RATINGS

I_D	16 A
V_{DSS}	65 V
V_{GS}	± 40 V
P_{DISS}	300 W @ $T_C = 25^\circ\text{C}$
T_J	-65°C to $+200^\circ\text{C}$
T_{STG}	-65°C to $+200^\circ\text{C}$
θ_{JC}	0.6 $^\circ\text{C/W}$

PACKAGE STYLE .500 4L FLG

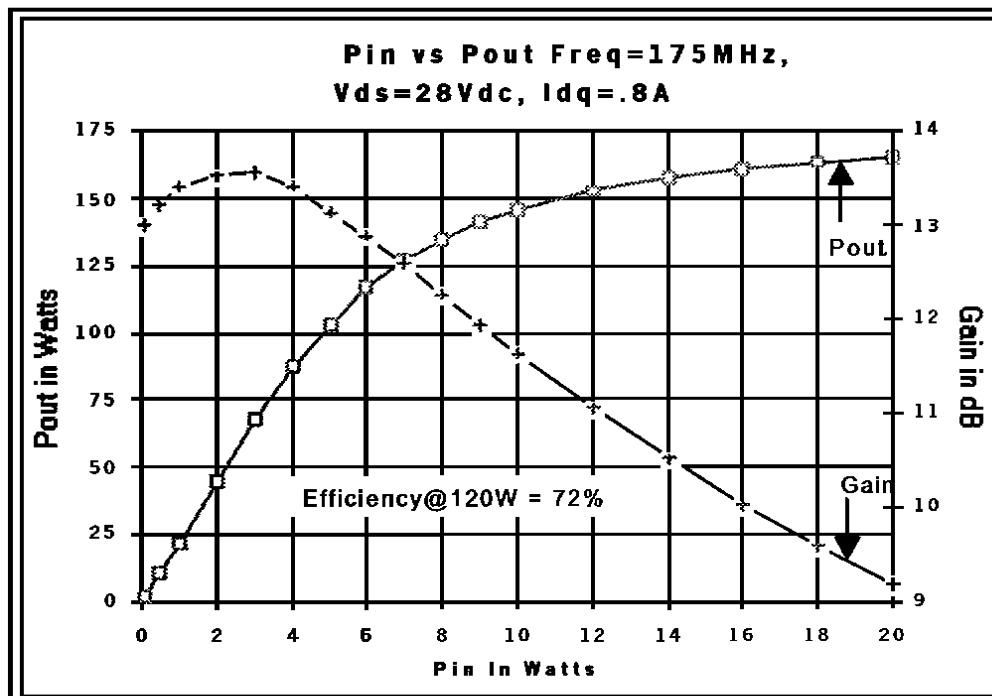


DIM	MINIMUM inches / mm	MAXIMUM inches / mm
A	.220 / 5.59	.230 / 5.84
B	.125 / 3.18	
C	.245 / 6.22	.255 / 6.48
D	.720 / 18.28	.730 / 18.54
E	.125 / 3.18	
F	.970 / 24.64	.980 / 24.89
G	.495 / 12.57	.505 / 12.83
H	.003 / 0.08	.007 / 0.18
I	.090 / 2.29	.110 / 2.79
J	.150 / 3.81	.175 / 4.45
K		.280 / 7.11
L	.980 / 24.89	1.050 / 26.67

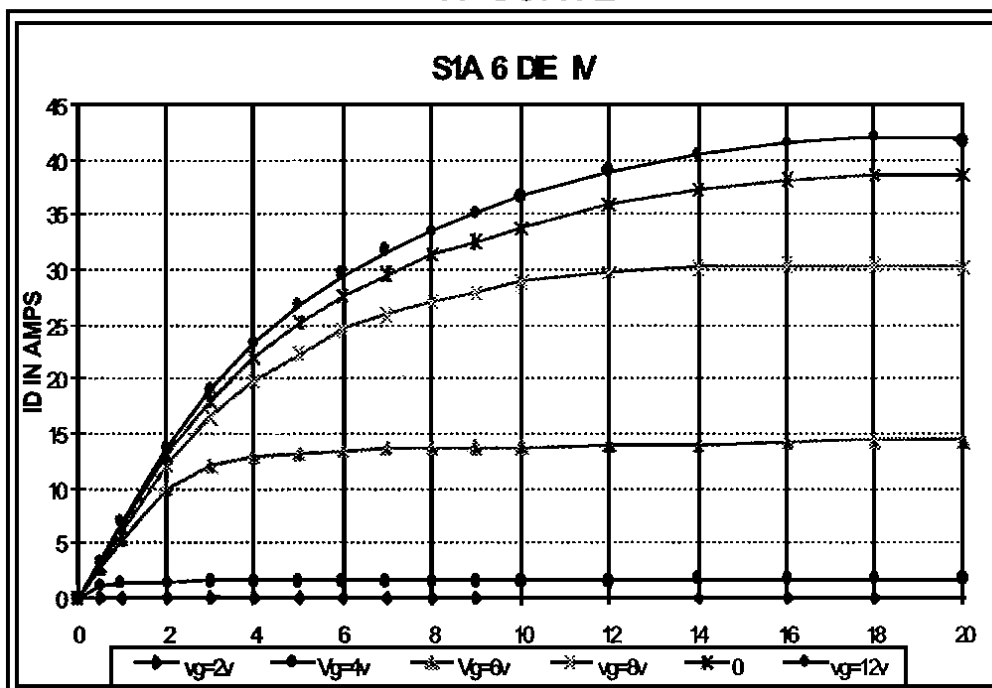
CHARACTERISTICS $T_C = 25^\circ\text{C}$

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{DSS}	$I_D = 100$ mA	65			V
I_{DSS}	$V_{DS} = 28$ V $V_{GS} = 0$ V			5.0	mA
I_{GSS}	$V_{DS} = 0$ V $V_{GS} = 20$ V			1.0	μA
$V_{GS(th)}$	$I_D = 100$ mA $V_{DS} = 10$ V	1.0		5.0	V
$V_{DS(on)}$	$I_D = 10$ A $V_{GS} = 10$ V			5.0	V
g_{fs}	$I_D = 5.0$ A $V_{DS} = 10$ V	5.0			mhos
C_{iss} C_{oss} C_{rss}	$V_{DS} = 28$ V $V_{GS} = 0$ V $f = 1.0$ MHz		350 420 40		pF
G_{ps}	$V_{DD} = 28$ V $I_{DQ} = 250$ mA $P_{out} = 150$ W (PEP) $f = 175$ MHz	16	20 10		dB
η $IMD_{(d3)}$ $IMD_{(d11)}$	$V_{DD} = 28$ V $I_{DQ} = 250$ mA $P_{out} = 150$ W (PEP) $I_{D(max)} = 5.95$ A $f = 30$ to 30.001 MHz	40	-30 -60	-28	% dB dB
ψ	$V_{DD} = 28$ V $I_{DQ} = 250$ mA $P_{out} = 150$ W (PEP) $f_1 = 30$ to 30.001 MHz $V_{SWR} = 30:1$	NO DEGRADATION IN OUTPUT POWER			

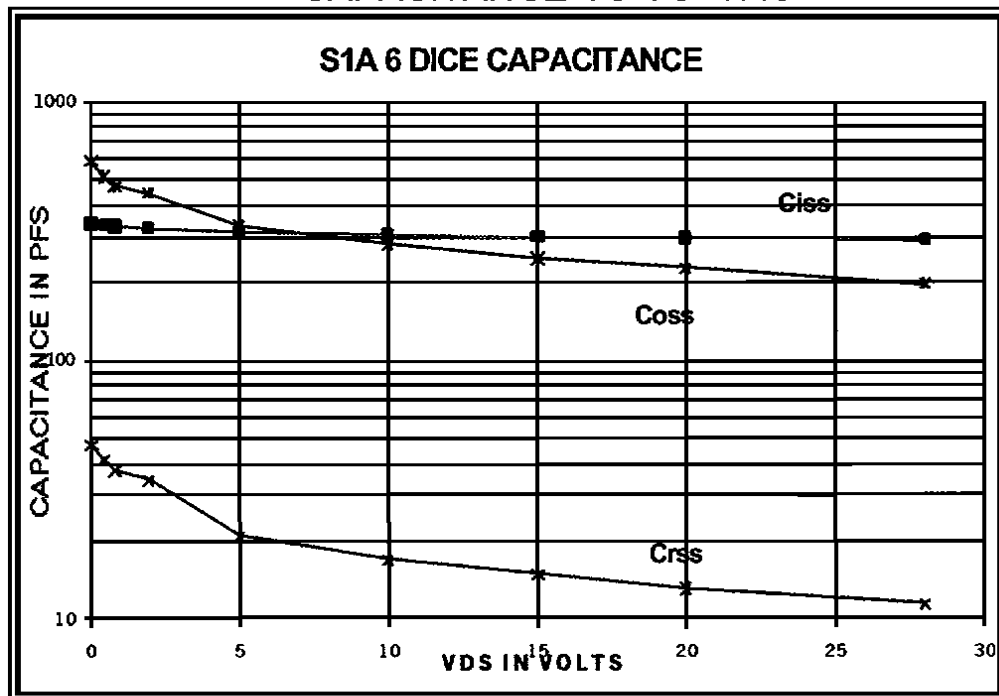
POUT VS PIN GRAPH



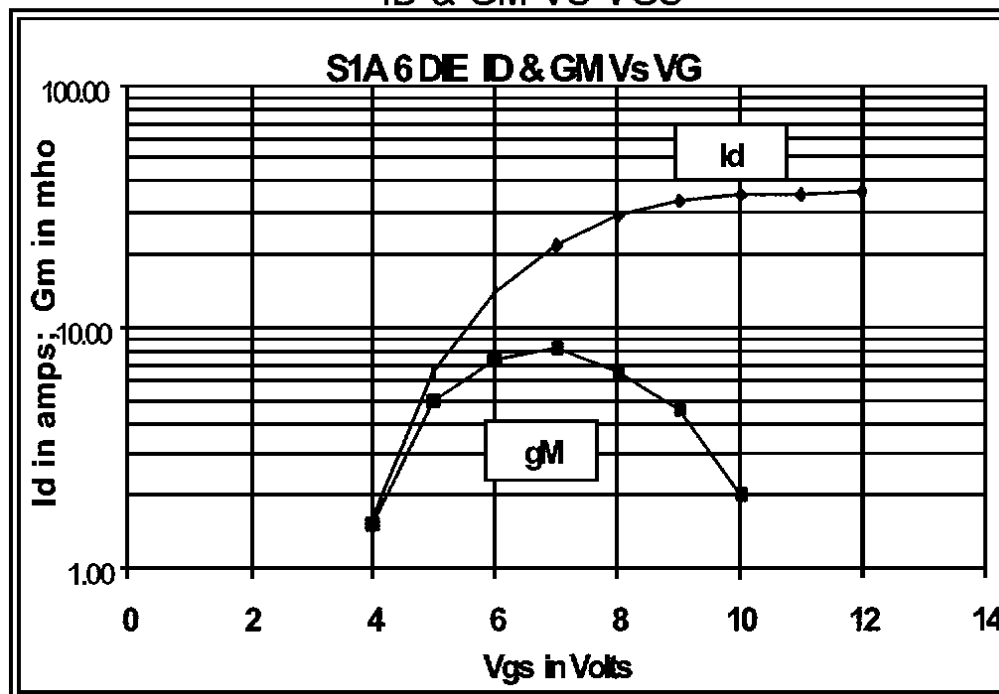
IV CURVE



CAPACITANCE VS VOLTAGE



ID & GM VS VGS



Zin Zout

