

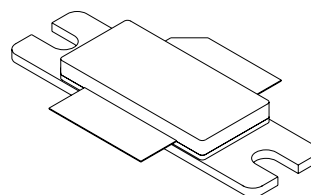
60W, 1.88GHz, 26V Broadband RF Power N-Channel Enhancement-Mode Lateral DMOS

Designed for DCS base station applications in the frequency band 1805 to 1880 GHz. Rated with a minimum output power of 60W, it is ideal for CDMA, TDMA, GSM, and Multi-Carrier Power Amplifiers in Class A or AB operation.

- ALL GOLD metal system for highest reliability
- Industry standard package
- Suggested alternative to the MRF18060
- Internally matched for repeatable manufacturing
- High gain, high efficiency and high linearity

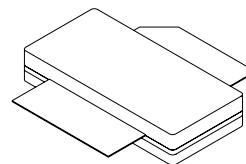
Application Specific Performance, 1.88 GHz

GSM:	60 Watts	13 dB
EDGE:	25 Watts	12.5 dB
IS95 CDMA:	7.5 Watts	12.5 dB
W-CDMA:	5 Watts	12.5 dB



Package Type 440117

- **Typical EDGE Performance (ETSI 300-910 GSM 05.05 v. 5.5.1)**
 - Average Load Power – 20 W
 - PAE – 30 %
 - Power Gain – 12.5 dB
 - ACPR1 (30 kHz BW offset $\pm$ 400 kHz normalized to total power in a 30 kHz BW): -57 dBc
 - ACPR2 (30 kHz BW offset $\pm$ 600 kHz normalized to total power in a 30 kHz BW): -66 dBc



Package Type 440133

UPF18060

Maximum Ratings

Rating	Symbol	Value	Unit
Drain to Source Voltage, Gate connected to Source	BV_{DSS}	65	Volts
Gate to Source Voltage	BV_{GSS}	+15 to -0.5	Volts
Total Device Dissipation @ TC = 70°C Derate above 70°C	P_D	100 0.8	Watts W/°C
Storage Temperature Range	T_{STG}	-65 to +150	°C
Operating Junction Temperature	T_J	200	°C

Thermal Characteristics

Characteristics	Symbol	Maximum	Unit
Thermal Resistance, Junction to Case	Θ_{JC}	1.2	°C/W

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Electrical DC Characteristics ($T_C=25^\circ\text{C}$ unless otherwise specified)

Rating	Symbol	Min	Typ	Max	Unit
Drain to Source Voltage, gate connected to source ($V_{GS}=0$, $I_{DS}=1\text{mA}$)	BV_{DSS}	65	-	-	Volts
Drain to Source Leakage current ($V_{DS}=28\text{V}$, $V_{GS}=0$)	I_{DSS}	-	-	2.0	mA
Gate to Source Leakage current ($V_{GS}=15\text{V}$, $V_{DS}=0$)	I_{GSS}	-	-	2.0	μA
Threshold Voltage ($V_{DS}=10\text{V}$, $I_{DS}=1\text{mA}$)	V_{TH}	-	3.5	-	Volts
Gate Quiescent Voltage ($V_{DS}=26\text{V}$, $I_{DS}=540\text{mA}$)	$V_{GS(on)}$	3.0	4.0	5.0	Volts
Drain to Source On Voltage ($V_{GS}=10\text{V}$, $I_{DS}=1\text{A}$)	$V_{DS(on)}$	-	0.14		Volts
Forward Transconductance ($V_{DS}=10\text{V}$, $I_D=5\text{A}$)	G_m	-	3.0	-	S

AC Characteristics ($T_C=25^\circ\text{C}$ unless otherwise specified)

Rating	Symbol	Min	Typ	Max	Unit
Output Capacitance* ($V_{DS}=26\text{V}$, $V_{GS}=0\text{V}$, freq= 1MHz)	C_{OSS}	-	52	-	pF
Feedback Capacitance ($V_{DS}=26\text{V}$, $V_{GS}=0\text{V}$, freq= 1MHz)	C_{RSS}	-	3.0	-	pF

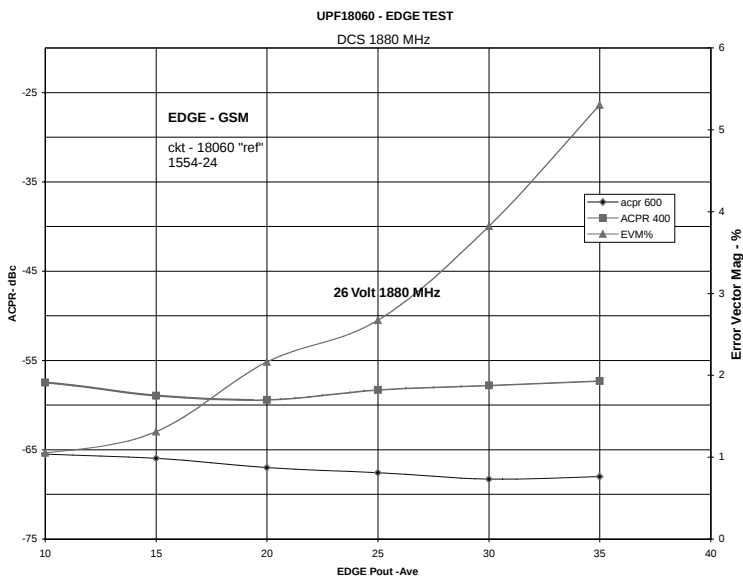
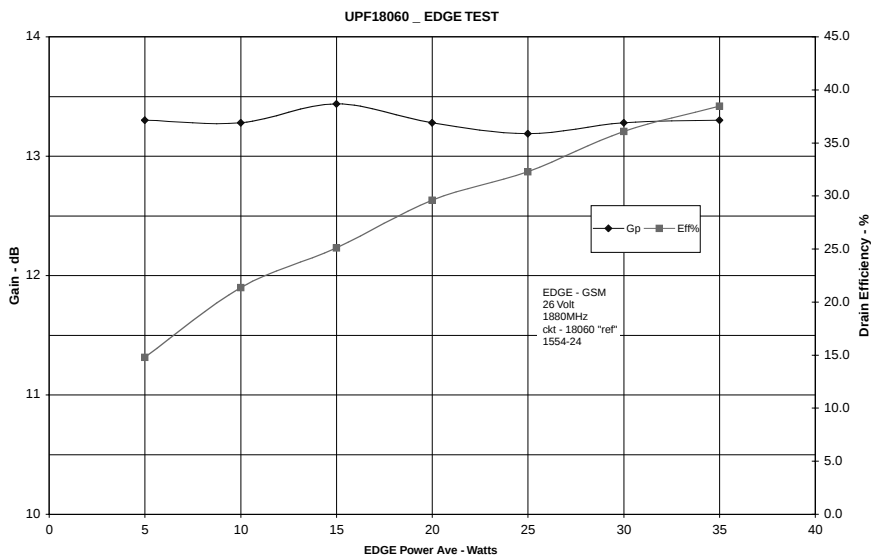
* For reference only.

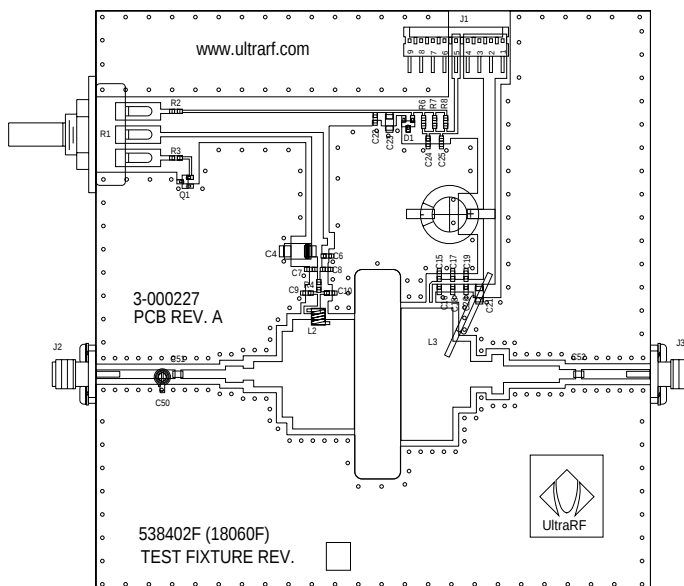
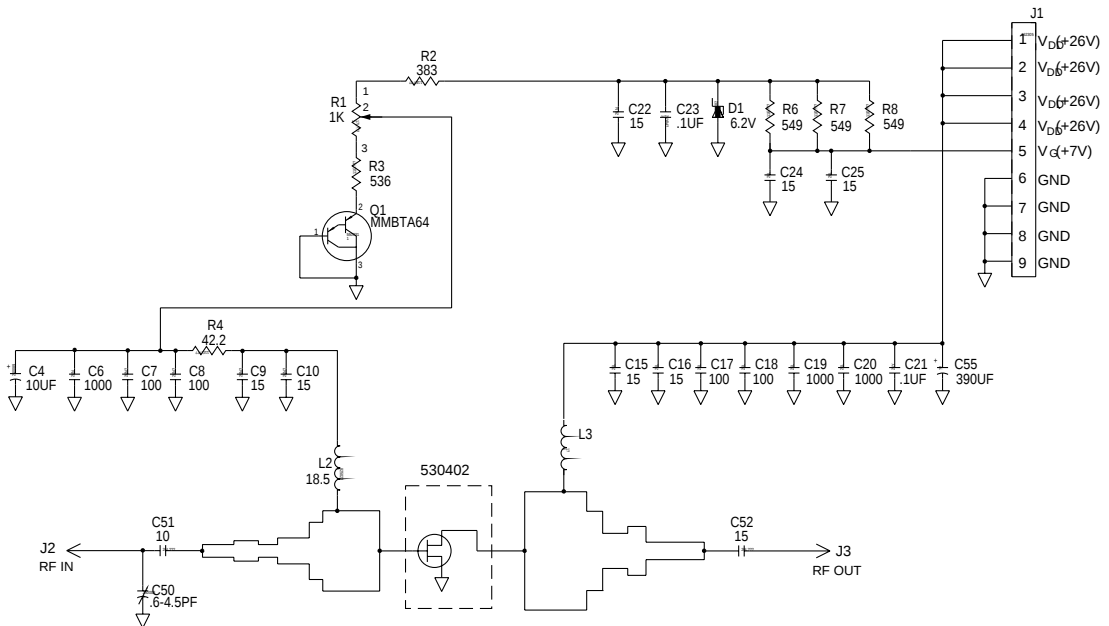
RF and Functional Tests ($T_C=25^\circ\text{C}$ unless otherwise specified, UltraRF Test Fixture)

Rating	Symbol	Min	Typ	Max	Unit
Two-Tone Common-Source Amplifier Power Gain $V_{DD}=26\text{V}$, $I_{DQ}=540\text{mA}$, $P_{OUT}=60\text{W}$ PEP $f_1=1805\text{ MHz}$, and 1880 MHz , Tone Spacing = 100kHz	G_{PS}	12.0	12.5	-	dB
Two-Tone Drain Efficiency $V_{DD}=26\text{V}$, $P_{OUT}=60\text{W}$ PEP, $I_{DQ}=540\text{mA}$ $f=1805\text{ MHz}$ and 1880 MHz , Tone Spacing = 100kHz	η	30	33	-	%
P_{OUT} , 1dB Compression Point $V_{DD}=26\text{V}$, $P_{OUT}=60\text{W}$ CW, $f=1880\text{ MHz}$	P1dB		60		W
Input Return Loss $V_{DD}=26\text{V}$, $P_{OUT}=60\text{W}$ PEP, $I_{DQ}=540\text{mA}$ $f=1805\text{ MHz}$ and 1880MHz , Tone Spacing = 100kHz	IRL	-	-10	-	dB
Load Mismatch Tolerance ($V_{DD}=26\text{V}$, $I_{DQ}=540\text{mA}$, $P_{OUT}=60\text{W}$ $f=1880\text{ MHz}$)	VSWR	10:1	-	-	

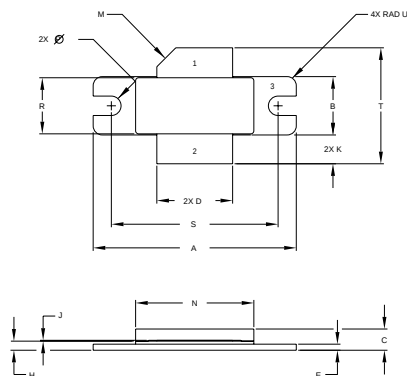
CAUTION - MOS Devices are susceptible to damage from ElectroStatic Discharge (ESD). Appropriate precautions in handling, packaging and testing MOS devices must be observed.

UPF18060





UPF18060

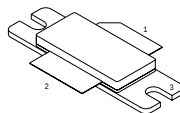


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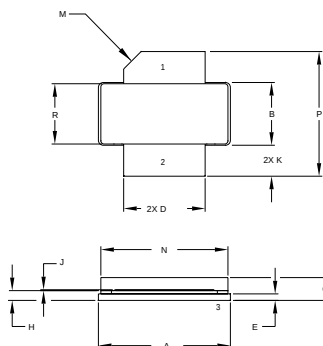
1. DIMENSIONING AND TOLERANCING PER
ANSI Y14.5M, 1992.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	1.335	1.345	33.91	34.16
B	0.380	0.390	9.65	9.91
C	0.135	0.149	3.43	3.78
D	0.495	0.505	12.57	12.83
E	0.035	0.045	.89	1.14
H	0.057	0.067	1.45	1.70
J	0.003	0.006	.08	.15
K	0.170	0.210	4.32	5.33
M	45H REF		45H REF	
N	0.773	0.787	19.63	19.99
P	0.123	0.133	3.12	3.38
R	0.364	0.374	9.25	9.50
S	1.095	1.105	27.81	28.07
T	0.745	0.785	18.92	19.94
U	0.060 REF		1.52 REF	

PIN 1. DRAIN
PIN 2. GATE
PIN 3. SOURCE



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NOTES:

1. DIMENSIONING AND TOLERANCING PER
ANSI Y14.5M, 1992.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.805	0.815	20.45	20.70
B	0.380	0.390	9.65	9.91
C	0.135	0.149	3.43	3.78
D	0.495	0.505	12.57	12.83
E	0.035	0.045	.89	1.14
H	0.057	0.067	1.45	1.70
J	0.003	0.006	.08	.15
K	0.170	0.210	4.32	5.33
M	45H REF		45H REF	
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