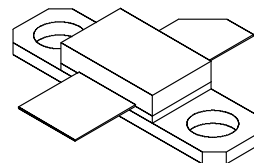


10W, 2.17 GHz, 28V Broadband RF Power N-Channel Enhancement-Mode Lateral MOSFET

Designed for UMTS base station applications in the frequency band 2.110 to 2.170 GHz. Rated with a minimum output power of 10W, it is ideal for CDMA, TDMA, GSM, and Multi-Carrier Power Amplifiers in Class A or AB operation.

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

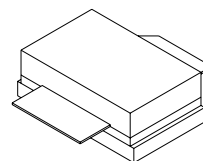


Package Type 440095

Application Specific Performance, 2.14 GHz

GSM:	10 Watts	13 dB
EDGE:	5 Watts	13 dB
IS95 CDMA:	3 Watts	13 dB
W-CDMA:	1.8 Watts	13 dB

- **Typical W - CDMA Performance: 2140 MHz, 28 Volts**
5MHz & 10 MHz Offset 64 DPCH
 Output Power – 1.8 W
 Drain Efficiency – 21 %
 Power Gain – 13 dB



Package Type 440134

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Maximum Ratings

Rating	Symbol	Value	Unit
Drain to Source Voltage, Gate connected to Source	BV_{DSS}	65	Volts
Gate to Source Voltage	GV_{GSS}	+15 /-5	Volts
Total Device Dissipation @ TC = 70°C Derate above 70°C	P_D	32 0.24	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}	4.0	°C/W

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

Rating	Symbol	Min	Typ	Max	Unit
Drain to Source Breakdown Voltage ($V_{GS}=0$, $I_{DS}=1\text{mA}$)	BV_{DSS}	65	-	-	Volts
Drain to Source Leakage current ($V_{DS}=28\text{V}$, $V_{GS}=0$)	I_{DSS}	-	-	100	μA
Gate to Source Leakage current ($V_{GS}=15\text{V}$, $V_{DS}=0$)	I_{GSS}	-	-	1.0	μA
Threshold Voltage ($V_{DS}=10\text{V}$, $I_D=1\text{mA}$)	V_{th}		3.5		Volts
Gate Quiescent Voltage ($V_{DS}=26\text{V}$, $I_{DS}=85\text{mA}$)	$V_{GS(on)}$	3.0	4.0	5.0	Volts
Drain to Source On Voltage ($V_{GS}=10\text{V}$, $I_{DS}=1\text{A}$)	$V_{DS(on)}$	-	0.9		Volts
Forward Transconductance ($V_{DS}=10\text{V}$, $I_D=.5\text{A}$)	G_m	-	.5	-	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}	-	12.4	-	pF
Feedback Capacitance ($V_{DS}=26\text{V}$, $V_{GS}=0\text{V}$, freq= 1MHz)	C_{OSS}	-	8.5	-	pF
Feedback Capacitance ($V_{DS}=26\text{V}$, $V_{GS}=0\text{V}$, freq= 1MHz)	C_{RSS}	-	.6	-	pF

* Part is internally matched on input.

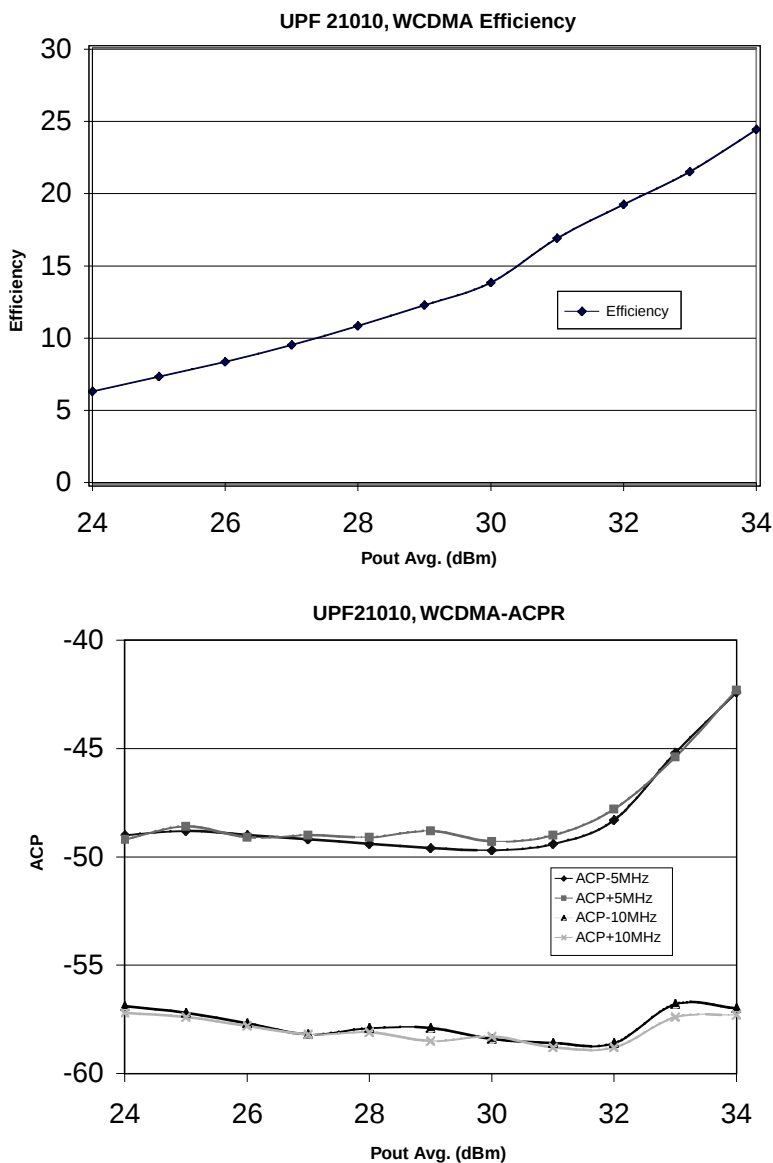
RF and Functional Tests ($T_C=25^\circ\text{C}$ unless otherwise specified, UltraRF Broadband Fixture)

Rating	Symbol	Min	Typ	Max	Unit
Linear Power Gain, Single tone ($V_{DS}=26\text{V}$, $I_{DQ}=85\text{mA}$, $P_{OUT}=3\text{W}$, f=2140 MHz)	G_{pLin}	12.0	13.5	-	dB
Compressed Power Gain, Single tone ($V_{DS}=26\text{V}$, $I_{DQ}=85\text{mA}$, $P_{OUT}=10\text{W}$, Freq=2140 MHz)	G_{PS}	11.0	12.5	-	dB
Drain Efficiency, Single Tone ($V_{DS}=26\text{V}$, $I_{DQ}=85\text{mA}$, $P_{OUT}=10\text{W}$, Freq=2140 MHz)	G_{PS}	11.0	12.5	-	dB
Intermodulation Distortion, Two Tone ($V_{DS}=26\text{V}$, $I_{DQ}=85\text{mA}$, $P_{OUT}=10\text{W}$ PEP f1=2140 MHz, f2=2140.1MHz)	IMD	-	-33	-30	dBc
Load Mismatch Tolerance ($V_{DS}=26\text{V}$, $I_{DQ}=85\text{mA}$, $P_{OUT}=10\text{W}$, f=2140 MHz)	VSWR	10:1	-	-	

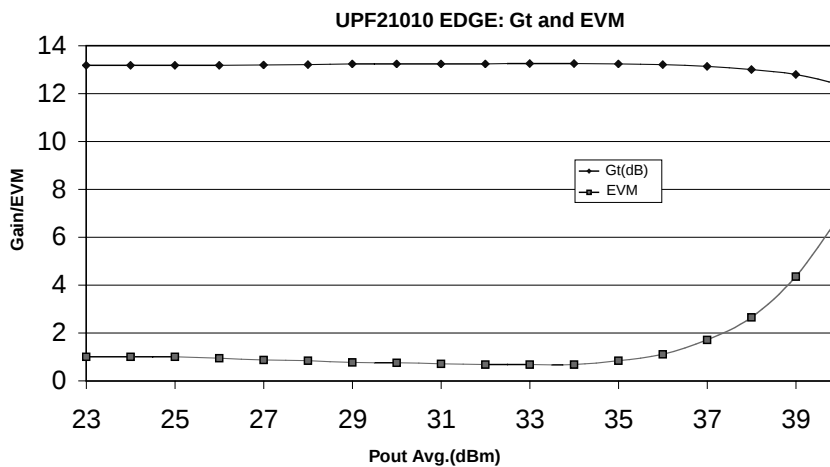
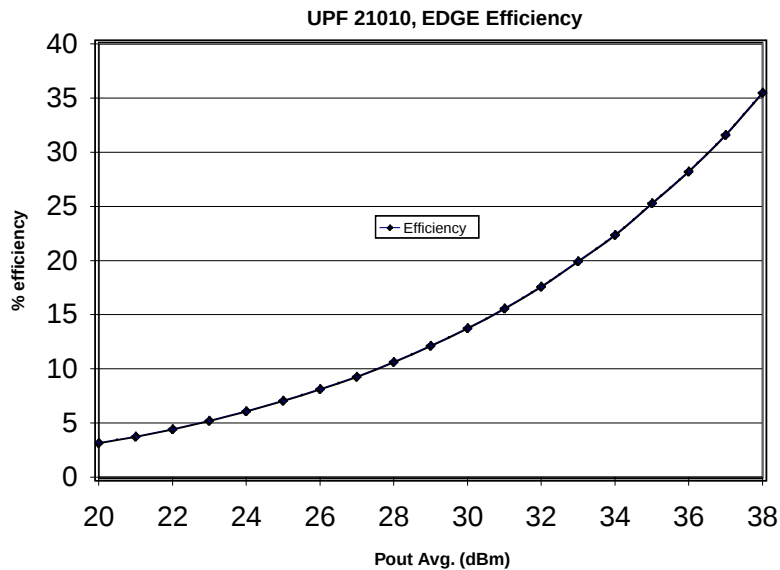
CAUTION - MOS Devices are susceptible to damage from ElectroStatic Discharge (ESD). Appropriate precautions in handling, packaging and testing MOS devices must be observed.

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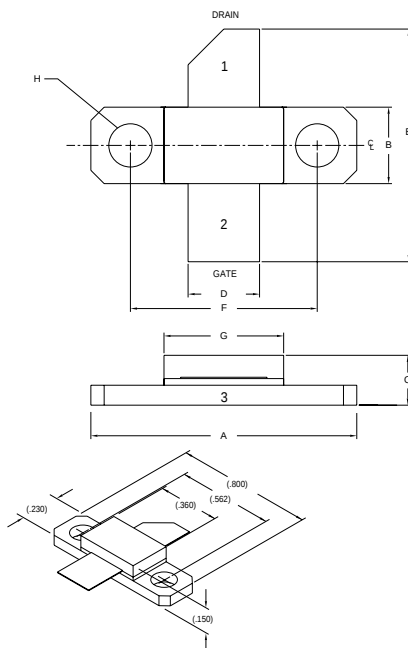


Note: WCDMA signal using HP4432B ESG, 64 DPCH. Detected with HP4406A VSA.



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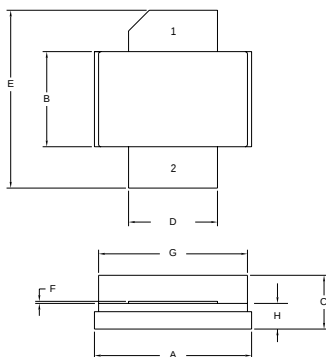
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- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1992.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.795	.805	20.19	20.45
B	.225	.235	5.72	5.97
C	.143	.157	3.63	3.99
D	.210	.220	5.33	5.59
E	.67	.73	17.02	18.54
F	.557	.567	14.15	14.40
G	.355	.365	9.02	9.27
H	.125	.135	3.18	3.43

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



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

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.375	.385	9.53	9.78
B	.225	.235	5.72	5.97
C	.123	.137	3.12	3.48
D	.210	.220	5.33	5.59
E	.427	.433	10.85	11.00
F	.004	.006	.10	.15
G	.355	.365	9.02	9.27
H	.057	.067	1.45	1.70

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

