

PTF180901

GSM/EDGE RF Power FET

The PTF180901

One of our new line of GSM/EDGE/CDMA2000 devices, the PTF180901 is optimized for the DCS and PCS bands. This device operates at 47% efficiency with 13.5 dB of gain and produces 115 W, P_{-1dB} . This high-gain high-efficiency device is ideal to power your amplifier design. A laterally diffused single-ended GOLDMOS[®] FET, it incorporates full gold metallization and integrated ESD protection to ensure excellent lifetime and reliability.

Features

- Optimized for bandwidths 1805 MHz – 1880 MHz and 1930 MHz – 1990 MHz
- Improved ruggedness
- Broadband internal matching
- Full gold metallization
- Integrated ESD protection: Human Body Model, Class 1 (minimum)
- Excellent thermal stability
- Low HCl drift
- Capable of handling 10:1 VSWR @ 28 V, 90 W (CW) output power

Performance

- Typical EDGE performance
 - Average output power = 35 W
 - Gain = 14.5 dB
 - Efficiency = 32%
 - EVM = 1.7% AVG
 - ACPR @ 400 KHz = -60 dBc
 - ACPR @ 600 KHz = -74 dBc
- Typical two-tone performance
 - Output power = 90 W PEP
 - Gain = 15 dB
 - Efficiency = 36%
 - IM₃ = -30 dBc
 - 1 MHz tone spacing

Type List

| Type | Output Power | Gain | Supply Voltage | Package Type | Package |
|------------|--------------|-------|----------------|-----------------------------|---------|
| PTF180901E | 90 W | 15 dB | 28 V | Thermally enhanced | 30248 |
| PTF180901F | 90 W | 15 dB | 28 V | Thermally enhanced, earless | 31248 |

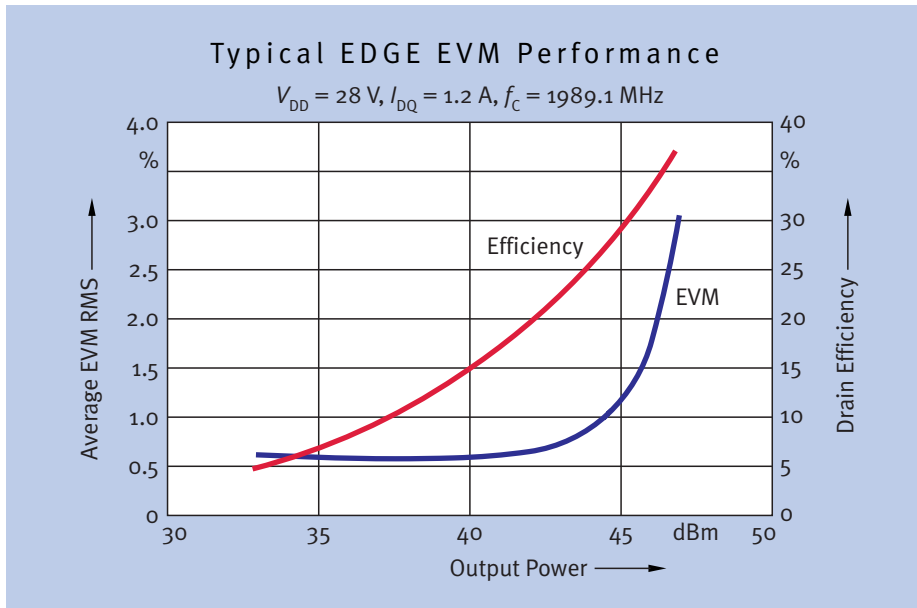
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Wireless Communication



Never stop thinking.

Performance Characteristics

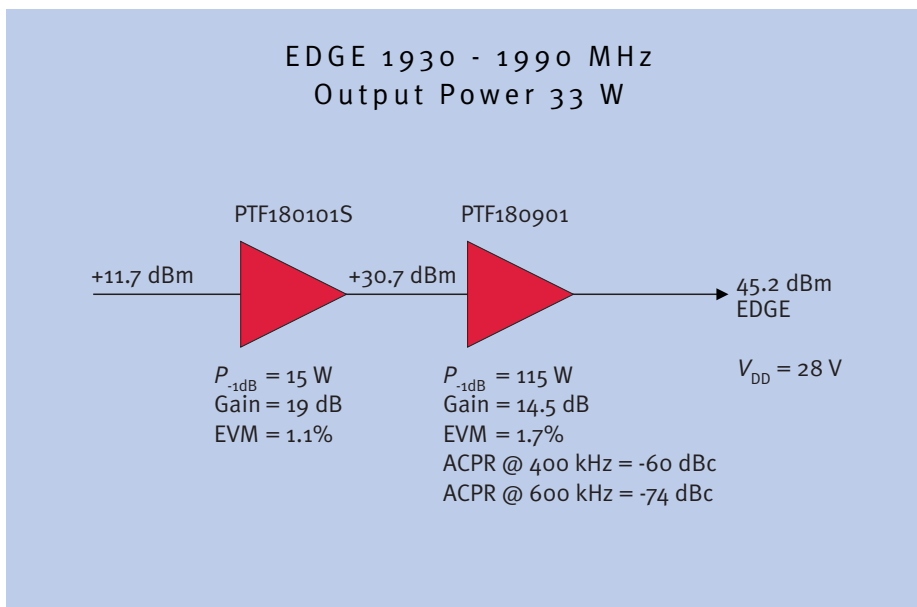


Two-Tone Measurements

$V_{DD} = 28\text{ V}, I_{DQ} = 1.2\text{ A}, P_{OUT} = 90\text{ W PEP}, f_c = 1930\text{ MHz}, \text{ Tone Spacing} = 100\text{ kHz}$

| Characteristic | Symbol | Min. | Typ. | Max. | Units |
|----------------------------|----------|------|------|------|-------|
| Gain | G_{ps} | 14 | 15 | - | dB |
| Drain Efficiency | η_D | 30 | 36 | - | % |
| Intermodulation Distortion | IMD | - | -30 | -28 | dBc |

Application Example



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