

**PRODUCT SUMMARY**

# SKY77161: PA Module for TD-SCDMA (2010-2025 MHz)

**Applications**

- TD-SCDMA handsets

**Features**

- Low voltage positive bias supply  
- 3.2 V to 4.2 V
- Low  $V_{REF}$   
- 2.85 V, nominal
- Supports low collector voltage operation
- Good linearity
- High efficiency
- Large dynamic range
- 10-pin package  
- 4 mm x 4 mm x 1.5 mm
- Power down control
- Low power-state control
- InGaP

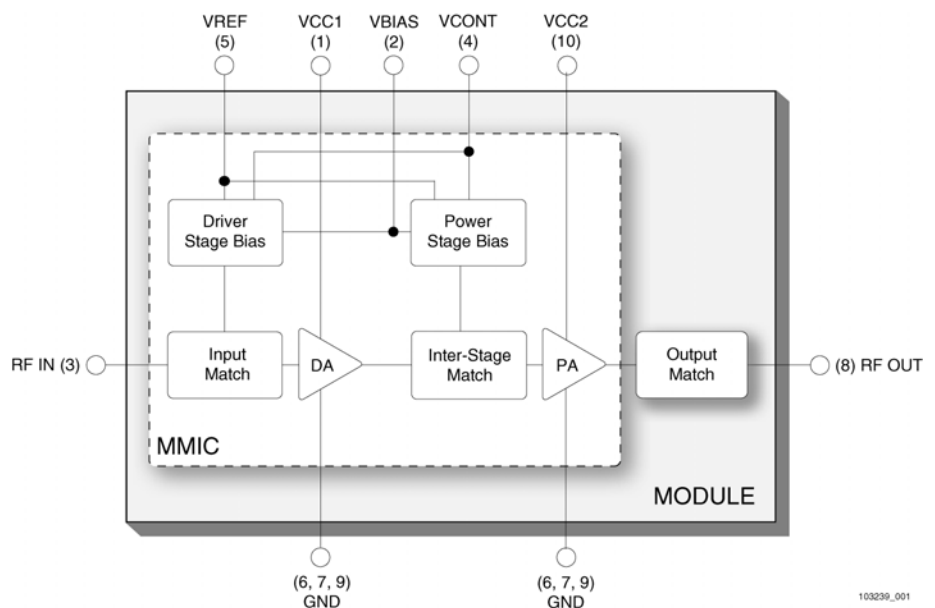
The SKY77161 Power Amplifier Module (PAM) is a fully matched, 10-pin, surface mount module developed for Time Division Synchronous Code Division Multiple Access (TD-SCDMA) applications. Skyworks' SKY77161 also supports TD-SCDMA multi-slot operation.

This small and efficient module packs full 2010-2025 MHz bandwidth coverage into a single compact package. The PAM meets the stringent spectral linearity requirements of TD-SCDMA transmission, with high power added efficiency for power output of up to 28 dBm. A low current pin (VCONT) is provided to improve efficiency for the low RF power range of operation.

A single Gallium Arsenide (GaAs) Microwave Monolithic Integrated Circuit (MMIC) contains all active circuitry in the module such as on-board bias circuit and input and interstage matching circuits. Output match is realized off-chip within the module package to optimize efficiency and power performance into a 50  $\Omega$  load.

This device is manufactured with Skyworks' GaAs Heterojunction Bipolar Transistor (HBT) process that provides for all positive voltage DC supply operation while maintaining high efficiency and good linearity. Primary bias to the SKY77161 is supplied directly from a three-cell Ni-Cad, a single cell Li-Ion, or other suitable batteries with outputs in the 3.2 to 4.2 volt range.

Power down is accomplished by setting the voltage on the low current reference pin to zero volts. No external supply side switch is needed as typical "off" leakage is a few microamperes with full primary voltage supplied from the battery.



**Figure 1. Functional Block Diagram**

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