

IMFET™ INTERNALLY MATCHED POWER GaAs FETs

Avantek's IMFET™ family of internally matched field effect transistors offers the designer entirely matched power amplifier modules suitable for use in commercial and military applications. These devices are optimized to operate over specific telecommunications and radar bands.

Avantek IMFET devices offer high gain, power added efficiency and linearity. Power outputs are typical 4 watts for the "-3" devices and 7 watts for the "-6" devices.

Fully distributed input and output thin-film matching circuitry incorporated into the package allow all guaranteed specifications to be achieved without the use of external tuning elements when the device is operated in a 50 ohm system. The active GaAs FET die use a nominal 0.5 micron gate length geometry and provide a total gate periphery of 10 mm for the -3 and 20 mm for the -6. Proven gold metalization systems and nitride passivation assure a rugged, reliable device.

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Typical Specifications @ $T_A = 25^\circ\text{C}$

Model		Optimum Frequency Range (GHz)	P _{1dB} (dBm)	G _{1dB} (dB)	η_{ADD} (%)	Case Type
IM-2935-3	—	2.9-3.5	36.0	11.5	35.0	IMFET
IM-3742-3	—	3.7-4.2	36.0	11.5	35.0	IMFET
IM-3742-6	—	3.7-4.2	38.5	9.5	30.0	IMFET
IM-4450-3	—	4.4-5.0	36.0	10.5	35.0	IMFET
IM-4450-6	—	4.4-5.0	38.5	8.5	30.0	IMFET
IM-5459-3	—	5.4-5.9	36.0	9.0	35.0	IMFET
IM-5964-3	—	5.9-6.4	36.0	9.0	35.0	IMFET
IM-5964-6	—	5.9-6.4	38.5	7.5	30.0	IMFET
IM-6471-3	—	6.4-7.1	36.0	8.0	35.0	IMFET
IM-7178-3	—	7.1-7.8	36.0	7.5	35.0	IMFET
IM-7984-3	—	7.9-8.4	36.0	7.0	35.0	IMFET

IMFET PACKAGE DRAWING

