Unit: mm

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

RFM08U9X

RF POWER MOSFET FOR VHF-AND UHF-BAND POWER AMPLIFIER

(Note)The TOSHIBA products listed in this document are intended for high frequency Power Amplifier of telecommunications equipment. These TOSHIBA products are neither intended nor warranted for any other use. Do not use these TOSHIBA products listed in this document except for high frequency Power Amplifier of telecommunications equipment.

 $\begin{array}{lll} \bullet & \text{Output Power} & : \text{Po} \geq 7.5 \text{W} \\ \bullet & \text{Power Gain} & : \text{GP} \geq 11.7 \text{dB} \\ \bullet & \text{Drain Efficiency} & : \eta \text{D} \geq 50 \% \end{array}$

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---------------------------|------------------|---------|------|
| Drain-Source Voltage | V_{DSS} | 36 | V |
| Gate-Source Voltage | V _{GSS} | 25 | V |
| Drain Current | I _D | 5 | Α |
| Drain Power Dissipation | P _{D*} | 20 | W |
| Channel Temperature | T _{ch} | 150 | °C |
| Storage Temperature Range | T _{stg} | -45~150 | °C |

^{1.} GATE
2. SOURCE (HEAT SINK)
3. DRAIN

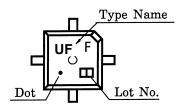
JEDEC

JEITA

TOSHIBA

2–5N1A

MARKING



^{*:} Tc = 25°C When mounted on a 1.6mm glass epoxy PCB

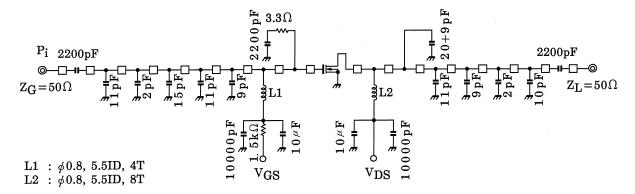
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

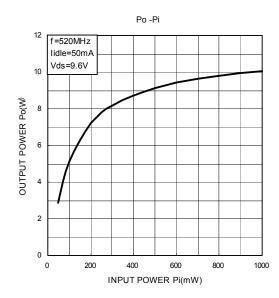
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN | TYP. | MAX | UNIT |
|-----------------------------|------------------|---|------|------|-----|------|
| Output Power | PO | V_{DS} = 9.6V lidle = 50mA (V_{GS} = adjust) f = 520MHz, P_i = 500mW | 7.5 | _ | _ | W |
| Drain Efficiency | η_{D} | | 50 | _ | _ | % |
| Power Gain | G _P | | 11.7 | _ | _ | dB |
| Gate Threshold Voltage | V_{th} | V _{DS} = 9.6V, I _D = 0.5mA | 1.0 | 1.5 | 2.0 | V |
| Drain Cut-off Current | I _{DSS} | V _{DS} = 20V, V _{GS} = 0 | | _ | 10 | μΑ |
| Gate-Source Leakage Current | I _{GSS} | V _{GS} = 10V, V _{DS} = 0 | _ | _ | 5 | μΑ |

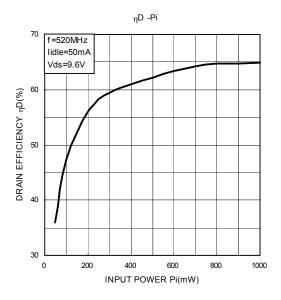
HANDLING PRECAUTION

• When handling individual devices, be sure that working desks, human bodies and soldering iron are protected against electrostatic electricity.

RF OUTPUT POWER TEST FIXTURE







CAUTION

These are only typical curves and devices are not necessarily guaranteed at these curves.

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RESTRICTIONS ON PRODUCT USE

20070701-EN

- The information contained herein is subject to change without notice.
- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
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 that regulate the inclusion or use of controlled substances. Toshiba assumes no liability for damage or losses
 occurring as a result of noncompliance with applicable laws and regulations.

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