#### TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

# 2SK2854

#### **UHF BAND AMPLIFIER APPLICATION**

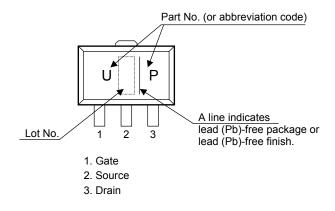
(Note)The TOSHIBA products listed in this document are intended for high frequency Power Amplifier of telecommunications equipment. These TOSHIBA products are neither intended nor warranted for any other use. Do not use these TOSHIBA products listed in this document except for high frequency Power Amplifier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

# MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	$V_{DSS}$	10	٧
Gate-Source Voltage	V <sub>GSS</sub>	±6	V
Drain Current	I <sub>D</sub>	0.5	Α
Drain Power Dissipation	P <sub>D</sub> (Note 1)	0.5	W
Channel Temperature	T <sub>ch</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C

Note 1: Tc = 25°C When mounted on a 1.6mm glass epoxy PCB

#### **MARKING**



Unit in mm

4.6MAX.

1.7MAX.

0.4±0.05

0.45-0.05

0.4-0.05

1.5±0.1

1. GATE
2. SOURCE
3. DRAIN

JEDEC

JEITA

SC-62

TOSHIBA

2-5K1D

Caution: This device is sensitive to electrostatic discharge.

Please make enough tool and equipment earthed when you handle.

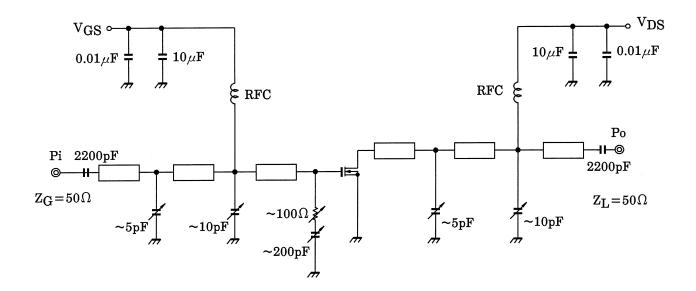


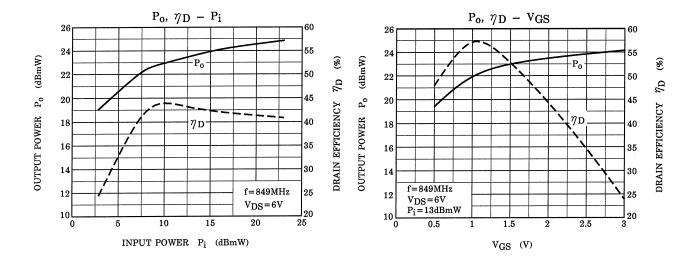
# **ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Power	Po	V <sub>DS</sub> = 6V, f = 849MHz Pi = 13dBmW	23	_	_	dBmW
Drain Efficiency	ηD	V <sub>DS</sub> = 6V, f = 849MHz Pi = 13dBmW, P <sub>O</sub> = 23dBmW	40	_	_	%
Drain-Source Breakdown Voltage	V (BR) DSS	V <sub>GS</sub> = 0, I <sub>D</sub> = 1μA	10	_	_	V
Drain Cut-off Current	I <sub>DSS</sub>	V <sub>DS</sub> = 6V, V <sub>GS</sub> = 0	_	_	100	nA
Threshold Voltage	V <sub>th</sub>	V <sub>DS</sub> = 6V, I <sub>D</sub> = 250μA	1.0	1.4	1.8	V
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = 6V, V <sub>DS</sub> = 0	_	_	±100	nA

Note 2: These characteristic values are measured using measurement tools specified by Toshiba.

### RF OUTPUT POWER TEST FIXTURE





Note 3: These are only typical curves and devices are not necessarily guaranteed at these curves.

# **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.
  In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc.
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in his document shall be made at the customer's own risk.
- The products described in this document shall not be used or embedded to any downstream products of which manufacture, use and/or sale are prohibited under any applicable laws and regulations.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA for any infringements of patents or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any patents or other rights of TOSHIBA or the third parties.
- Please contact your sales representative for product-by-product details in this document regarding RoHS
  compatibility. Please use these products in this document in compliance with all applicable laws and regulations
  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.