TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

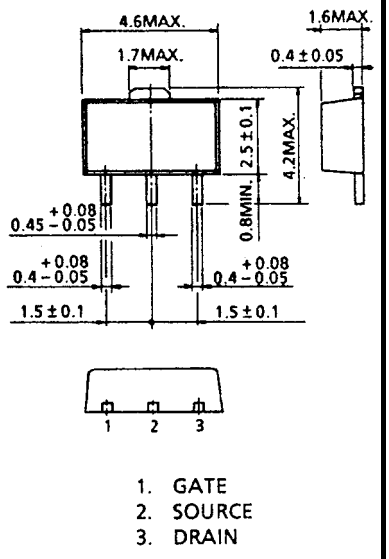
2SK3475

VHF- and UHF-band Amplifier Applications

(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.

- Output power: P_O = 630 mW (min)
- Gain: G_P = 14.9dB (min)
- Drain efficiency: η_D = 45% (min)

Unit: mm



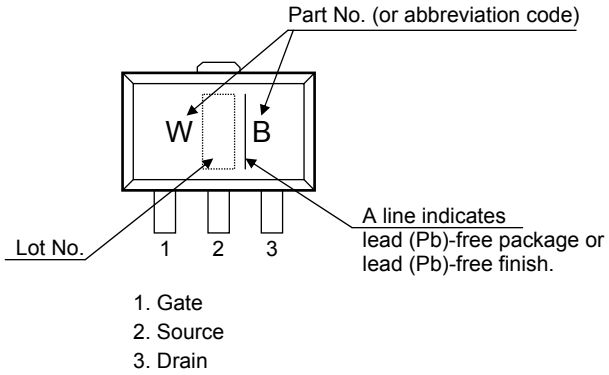
JEDEC	—
JEITA	SC-62
TOSHIBA	2-5K1D

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Drain-source voltage	V_{DSS}	20	V
Gain-source voltage	V_{GSS}	10	V
Drain current	I_D	1	A
Power dissipation	P_D (Note 1)	3	W
Channel temperature	T_{ch}	150	°C
Storage temperature range	T_{stg}	−45~150	°C

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

Marking



Caution: This device is sensitive to electrostatic discharge.

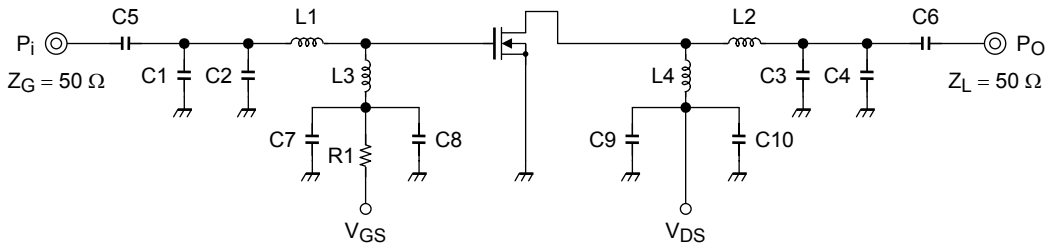
Please make enough tool and equipment earthed when you handle.

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Drain cut-off current	I_{DSS}	V_{DS} = 20 V, V_{GS} = 0 V	—	—	5	μA
Gate-source leakage current	I_{GSS}	V_{GS} = 10 V	—	—	5	μA
Threshold voltage	V_{th}	V_{DS} = 7.2 V, I_D = 2 mA	1.9	2.4	2.9	V
Drain-source on-voltage	$V_{DS\ (ON)}$	V_{GS} = 10 V, I_D = 75 mA	—	87	—	mV
Forward transconductance	Y_{fs}	V_{DS} = 7.2 V, I_{DS} = 208 mA	—	260	—	mS
Input capacitance	C_{iss}	V_{DS} = 7.2 V, V_{GS} = 0 V, f = 1 MHz	—	11	—	pF
Output capacitance	C_{oss}	V_{DS} = 7.2 V, V_{GS} = 0 V, f = 1 MHz	—	12.5	—	pF
Output power	P_O	V_{DS} = 7.2 V, I_{idle} = 50 mA (V_{GS} = adjust), f = 520 MHz, P_i = 20 mW,	630	—	—	mW
Drain efficiency	η_D		45	—	—	%
Power gain	G_P		14.9	—	—	dB
Low voltage output power	P_{OL}	V_{DS} = 6.0 V, I_{idle} = 50 mA (V_{GS} = adjust), f = 520 MHz, P_i = 20 mW,	500	—	—	mW

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

Output Power Test Fixture
(Test Condition: f = 520 MHz, V_{DS} = 7.2 V, I_{idle} = 50 mA, P_i = 20 mW)

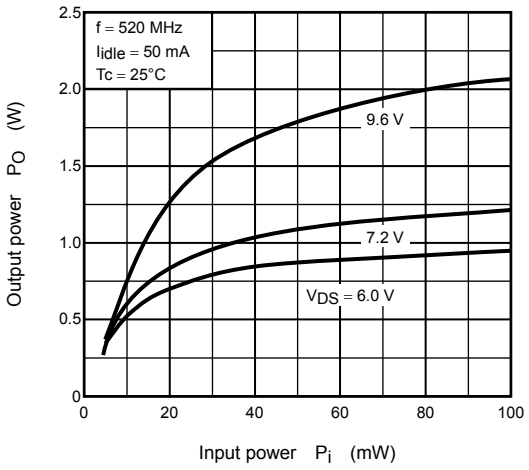


C1: 10 pF
C2: 10 pF
C3: 9 pF
C4: 6 pF
C5: 2200 pF
C6: 2200 pF
C7: 10 μF
C8: 10000 pF
C9: 10 μF
C10: 10000 pF

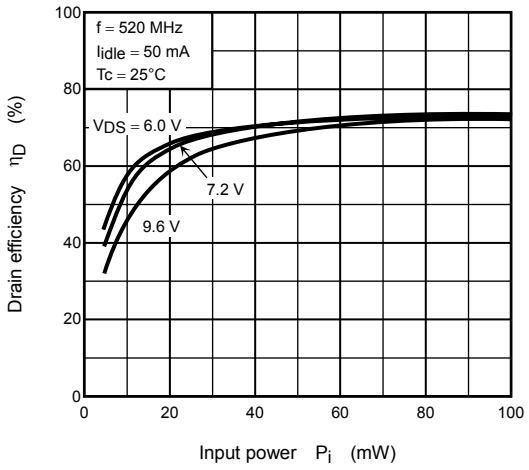
L1: ϕ0.8 mm enamel wire, 2.2ID, 1T
L2: ϕ0.8 mm enamel wire, 2.2ID, 1T
L3: ϕ0.8 mm enamel wire, 5.5ID, 4T
L4: ϕ0.8 mm enamel wire, 5.5ID, 8T

R1: 1.5 kΩ

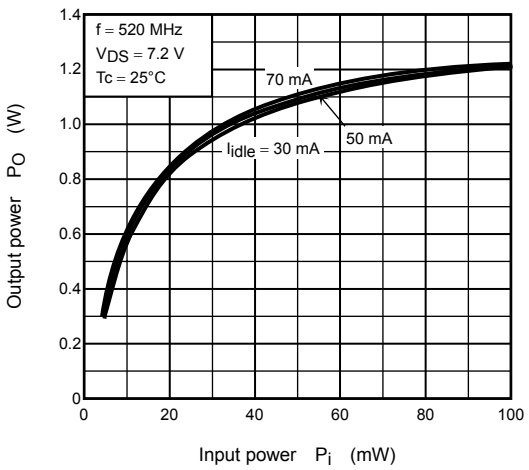
$P_O - P_i$



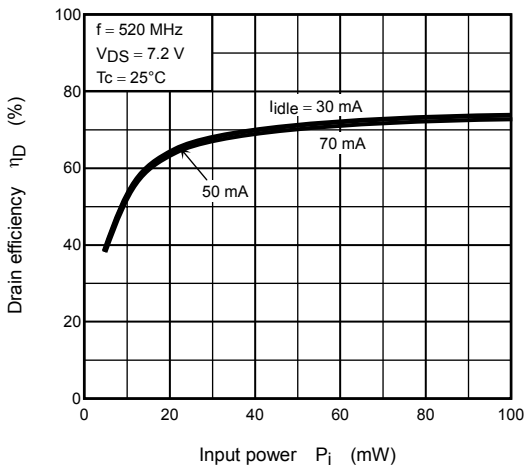
$\eta_D - P_i$



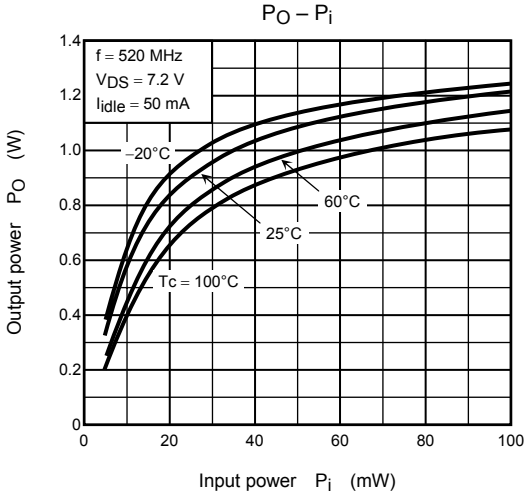
$P_O - P_i$



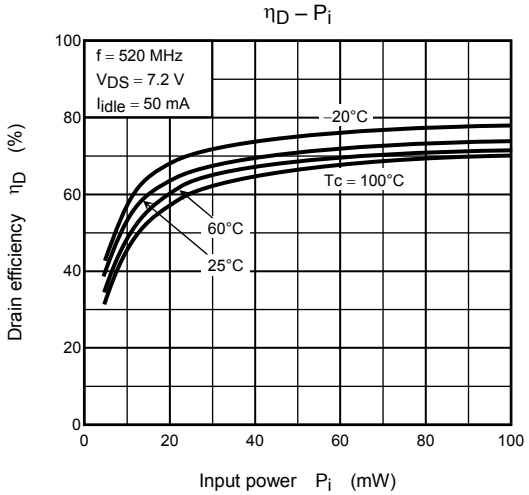
$\eta_D - P_i$



$P_O - P_i$



$\eta_D - P_i$



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

RESTRICTIONS ON PRODUCT USE

030619EAA

- The information contained herein is subject to change without notice.
- 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 patent or patent rights of TOSHIBA or others.
- 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 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.
- 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 this document shall be made at the customer’s own risk.
- TOSHIBA products should not be embedded to the downstream products which are prohibited to be produced and sold, under any law and regulations.

ENTEGRECİ

Bu belge www.entegreci.com üzerinden sunulmaktadır.

Elektronik komponent tedarikinde Entegreci

Entegreci, Eskişehir merkezli, Türkiye geneline satış yapan bir elektronik komponent mağazasıdır. Entegreler (IC), mikrodenetleyiciler, transistörler, diyotlar, pasif elemanlar, konnektörler, modüller ve geliştirme kartları tek adetten seri üretim adetlerine kadar satılır. Ürün sayfalarında güncel stok durumunu, fiyatı ve datasheet bağlantısını bulabilirsiniz.

Parça koduyla arama

Üretici parça numarasını yazın; stok ve fiyatı hemen görün.

www.entegreci.com

Ürün kategorileri

Entegreden kapasitöre tüm elektronik komponent kategorileri.

Kategorilere göz atın

Üreticiler

Aradığınız üreticinin ürünlerini tek sayfada inceleyin.

Üreticileri görün

Toplu alım ve teklif

Listede olmayan ya da yüksek adetli parçalar için teklif isteyin.

Teklif isteyin

www.entegreci.com | **destek@entegreci.com** | **0850 305 90 34**

Entegreci is an online electronic components store based in Türkiye. Search by manufacturer part number to see stock, prices and datasheets for integrated circuits, microcontrollers, transistors, passive components and connectors, or request a quote for parts that are not listed.

Bu sayfa Entegreci tarafından eklenmiştir. Belgenin önceki sayfaları asıl yayıncısına aittir ve içeriği değiştirilmemiştir; en güncel sürüm için belgenin yayıncısına başvurun.