

## Product Brief

### Highlights

#### RF MOSFETs

- Multiple Applications: Designed for handheld professional radio applications, General Mobile Radio Service (GMRS)/Family Radio Service (FRS) walkie-talkies, ISM band and CB/Amateur radio transmitters
- Extensive Lineup: A selection of 10 RF power MOSFETs are currently available with additional devices under development
- High Efficiency: The line features efficiencies ranging from 40% (Min.) to 60% (Min.)
- Low Supply Voltage: Devices can operate at supply voltages ranging from 3.6V to 9.6V

#### RF Modules

- High Output Power: Devices provide power output ranging from 7W to 80W
- Diverse Product Lineup: Six RF modules each for UHF and VHF
- High Efficiency: The devices feature efficiencies ranging from 40% to 50%

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## RF MOSFET and RF Module for VHF and UHF Applications

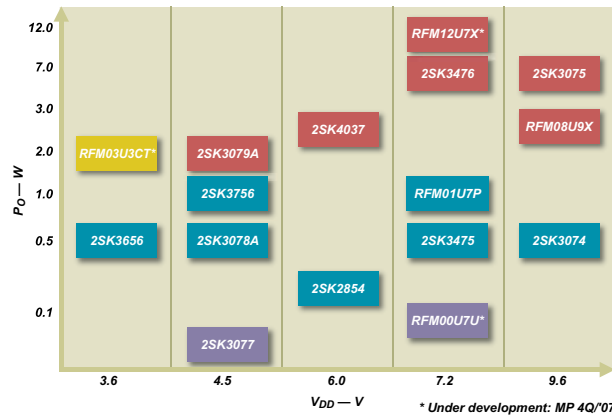
### Introduction

To meet the characteristics and diverse needs of professional, consumer and marine radio manufacturers, Toshiba America Electronic Components, Inc. (TAEC)\* offers a complete range of RF MOSFETs and digital and analog RF power modules as part of its comprehensive line of discrete products.

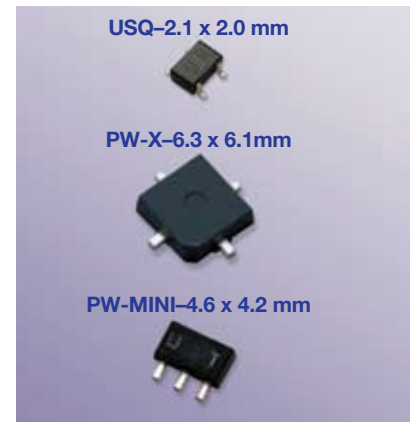
Toshiba Corp. (Toshiba)\*\* research and development experience enables global standards in manufacturing quality components which meet customers' requirements.

Toshiba's RF power modules are designed for two-way radios using VHF (30 MHz to 300 MHz) and UHF (300MHz to 3GHz) frequencies.

### RF MOSFET Line-Up



### Packages



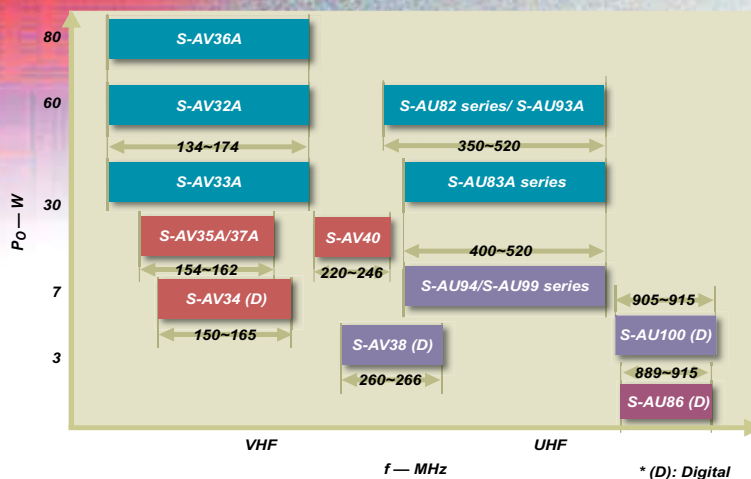
### RF MOSFET Characteristics

Part Number	Maximum Ratings			PO(W)	Eff(%)	Test Conditions			Package	MP
	(TC=25°C)					VDD	f	Pi		
	VDSS	PD	ID							
(V)	(W)	(A)	Min	Min	(V)	(MHz)	(W)			
2SK3075	30	20	5.0	7.5	50	9.6	520	0.5	PW-X	OK
RFM08U9X	36	20	5.0	7.5	50	9.6	520	0.5	PW-X	OK
2SK3074	30	3.0	1.0	0.63	45	9.6	520	0.02	PW-Mini	OK
RFM12U7X	20	20	3.0	11.5	55	7.2	520	1.0	PW-X	3Q/2008
2SK3476	20	20	3.0	7.0	60	7.2	520	0.5	PW-X	OK
RFM01U7P	20	3.0	2.0	1.0	55	7.2	520	0.1	PW-Mini	3Q/2008
2SK3475	20	3.0	1.0	0.63	45	7.2	520	0.02	PW-Mini	OK
RFM00U7U	20	0.25	0.1	0.1	---	7.2	520	0.01	USQ	3Q/2008
2SK4037	12	20	3.0	3.5	55	6.0	470	0.3	PW-X	OK
2SK2854	10	0.5	0.5	0.2	40	6.0	849	0.0	PW-Mini	OK
2SK3079A	10	20	3.0	2.24	50	4.5	470	0.1	PW-X	OK
2SK3756	7.5	3.0	1.0	1.26	50	4.5	470	0.1	PW-Mini	OK
2SK3078A	10	3.0	0.5	0.63	50	4.5	470	0.1	PW-Mini	OK
2SK3077	10	0.25	0.1	0.03	---	4.8	915	0.001	USQ	OK
RFM03U3CT	16	7.0	2.5	2.5	50	3.6	520	0.1	RF-CST3	3Q/2008
2SK3656	7.5	3.0	0.5	0.5	50	3.6	470	0.02	PW-Mini	OK

\* Under development = MP 4Q/'07

# Product Brief

## RF-Module Line-Up



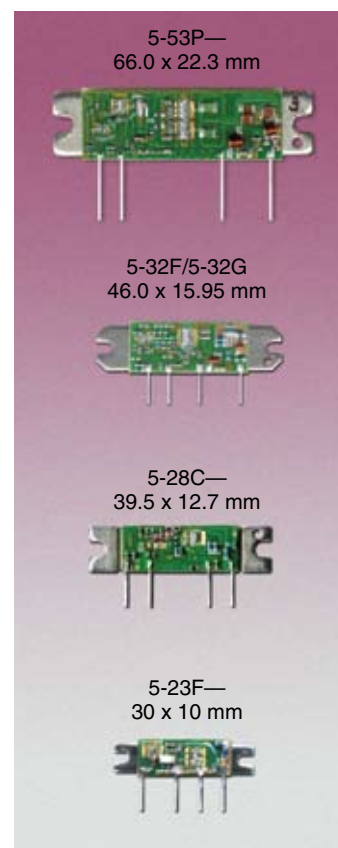
## RF Module Characteristics for Analog Application

Application	Part Number	Frequency f (MHz)	Characteristics			Test Conditions		Package	MP	
			Po Min. (W)	Eff Min. (%)	VSWR (-)	Pi (mW)	Vcc (V)			
VHF	60W FM professional radio	S-AV36A	134 to 174	80	45	3	50	5 / 12.5	5-53P	OK
	50W FM professional radio	S-AV32A	134 to 174	60	45	3	50	5 / 12.5	5-53P	OK
	25W FM professional radio	S-AV33A	134 to 174	32	45	3	50	5 / 12.5	5-53P	OK
	25W FM marine radio	S-AV35A	154 to 162	32	50	3	10	5 / 12.5	5-32G	OK
		S-AV37A	154 to 162	32	50	3	10	5 / 12.5	5-32G	OK
30W FM professional radio	S-AV40	220 to 246	30	40	3	50	5 / 12.5	5-32G	OK	
UHF	50W FM professional radio	S-AU82ASL	350 to 390	60	40	3	50	5 / 12.5	5-53P	OK
		S-AU82AVL	378 to 440	60	40	3	50	5 / 12.5	5-53P	OK
		S-AU82AL	400 to 470	60	40	3	50	5 / 12.5	5-53P	OK
		S-AU82AH	450 to 520	60	40	3	50	5 / 12.5	5-53P	OK
		S-AU93A	430 to 500	60	40	3	50	5 / 12.5	5-53P	OK
	25W FM professional radio	S-AU83AL	400 to 470	32	40	3	50	5 / 12.5	5-53P	OK
		S-AU83AH	450 to 520	32	40	3	50	5 / 12.5	5-53P	OK
	5W FM portable business ratio	S-AU94	450 to 490	7.55	40	4.5	25	4 / 9.6	5-23F	OK
		S-AU99L	400 to 470	7	45	3	20	4 / 9.6	5-23F	30/2008
S-AU99H	450 to 520	7	45	3	20	4 / 9.6	5-23F	30/2008		

## RF Module Characteristics for Digital Application

Application	Part Number	Frequency f (MHz)	Characteristics		Test Conditions		Package	MP
			Po Min. (dBm)	ACP (dBc)	Vcc (V)	Icc (A)		
Professional Radios	S-AV34 *	150 to 165	39	-34	10.8	2.8	5-32F	OK
	S-AV38 *	260 to 266	35	-35	7.2	1.7	5-23F	OK
Professional Radios (Japan digital MCA)	S-AU86 *	889 to 915	35	-39	12	1.7	5-28C	OK
	S-AU100*	905 to 915	35	-37	10.8	1.8	5-23F	OK

\* Modulating signal  $\pi / 4$  DQPSK (\* = 0.5, 32 kbps), Bandwidth : 16 kHz, Detuning frequency : 25 kHz



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## Discrete RF MOSFET and RF Module

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