


**TOSHIBA**

# RF Power Devices

PRODUCT GUIDE

# RF POWER TRANSISTOR

## ■ Selection Guide for RF Power Transistors

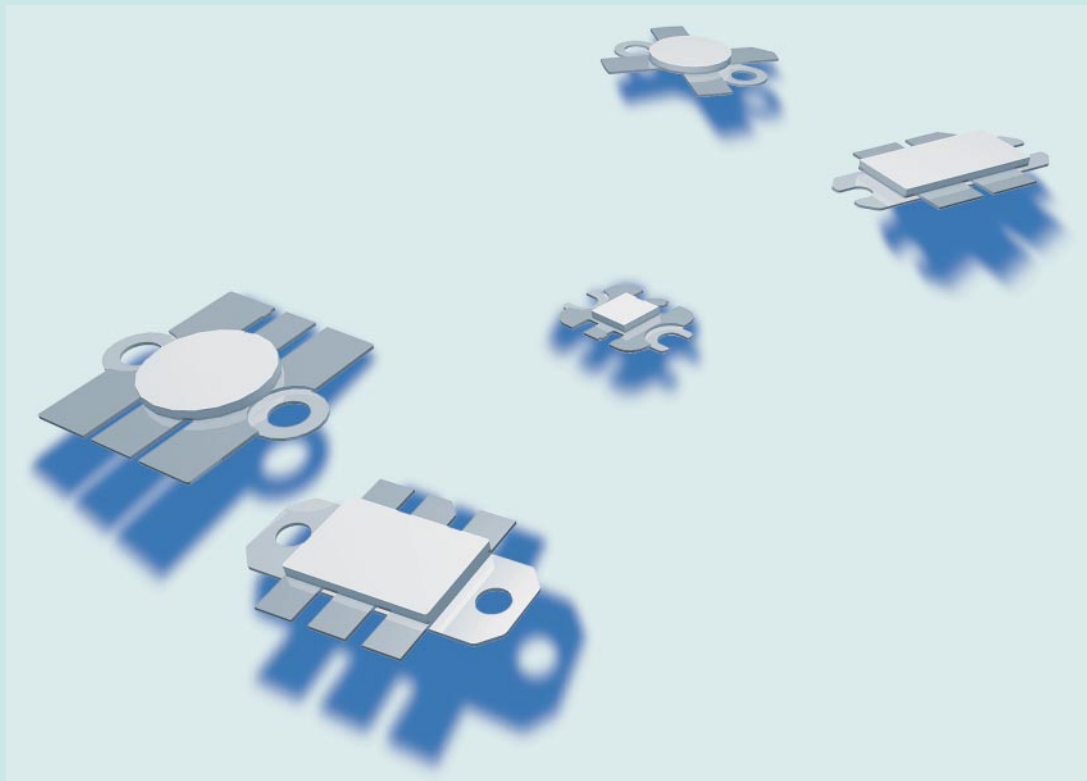
	Package	 ø 12.7
	P <sub>O</sub> (W)	
HF 30MHz	10PEP	
	20PEP	
	60PEP	<b>2SC2290</b>
	100PEP	<b>2SC2879</b>
	150PEP	<b>2SC2510*</b>

\* : VCC = 28 V

	Package	 ø 12.7
	P <sub>O</sub> (W)	
VHF 175MHz	6	
	28	
	32	
	80	<b>2SC2782</b>



## ■ Main Characteristics of RF Power Transistors

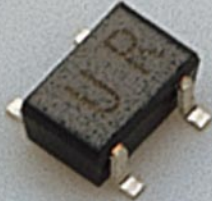
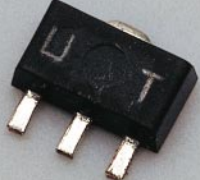

Application	Product Number	Absolute Maximum Ratings (Tc = 25°C)			Pout (W)			
		Vcbo (V)	Pc (Tc = 25°C) (W)	Ic (A)	Measuring Conditions			
					min	Vcc (V)	f (MHz)	Pin (W)
27 to 50 MHz CB Radio Transmitter HAM Radio Transmitter	<b>2SC2290</b>	45	175	20	60 PEP	12.5	28	4 PEP
	<b>2SC2879</b>	45	250	25	100 PEP	12.5	28	8 PEP
	<b>2SC2510</b>	60	250	20	150 PEP	28	28	9 PEP
175 MHz Marine Radio Transmitter HAM Radio Transmitter Business-Use Radio Transmitter	<b>2SC2782</b>	36	220	20	80	12.5	175	18



# RF POWER MOSFET

## ■ Selection Guide for RF Power MOSFETs

	Package		
	P <sub>O</sub> (W)		
VHF 230MHz	190	<b>2SK1310A</b>	
UHF 770MHz	90		<b>2SK1739A</b>

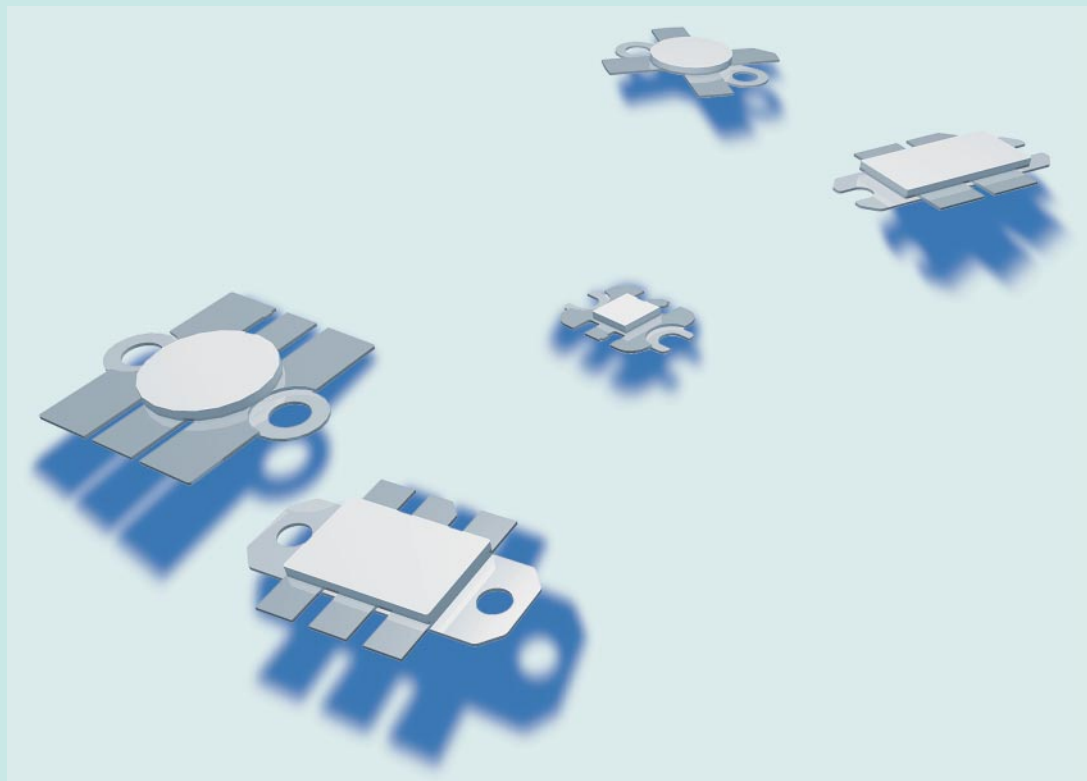
	Package			
	P <sub>O</sub> (W)			
500MHz	0.63		<b>2SK3074</b>	
	7.0			<b>2SK3075</b>
800MHz	0.4		<b>2SK2854</b>	
	1.26		<b>2SK2855</b>	
900MHz	0.03	<b>2SK3077</b>		
	0.5		<b>2SK3078</b>	
	3.55			<b>2SK3079*</b>

\* : Under development

## ■ Main Characteristics of RF Power MOSFETs

Application		Product Number	Absolute Maximum Ratings (Tc = 25°C)			Pout (W)			
			V <sub>DSS</sub> (V)	P <sub>c</sub> (Tc = 25°C) (W)	I <sub>D</sub> (A)	min	Measuring Conditions		
							V <sub>DD</sub> (V)	f (MHz)	P <sub>in</sub> (W)
For TV Broadcasting	VHF	<b>2SK1310A</b>	100	250	12	190W	50	230	10W
	UHF	<b>2SK1739A</b>	80	250	11	90W	40	770	10W
For Cellular Phone	800 MHz	<b>2SK2854</b>	10	0.5	0.5	0.4W	6	849	0.02W
		<b>2SK2855</b>	10	0.5	1.0	1.26W	6	849	0.4W
For Business-Use Radio Transmitter		<b>2SK3074</b>	30	3	1	0.63W	9.6	520	0.02W
		<b>2SK3075</b>	30	20	5	7W	9.6	520	0.5W
For Cellular Phone		<b>2SK3077</b>	10	0.1	0.1	15.0dBmW	4.8	915	0dBmW
		<b>2SK3078</b>	10	3.0	0.5	27.0dBmW	4.8	915	14.5dBmW
		<b>2SK3079*</b>	10	20	5	35.5dBmW	4.8	915	26.0dBmW

\* : Under development



# RF POWER MODULE

## ■ RF Power Module Product List by Application

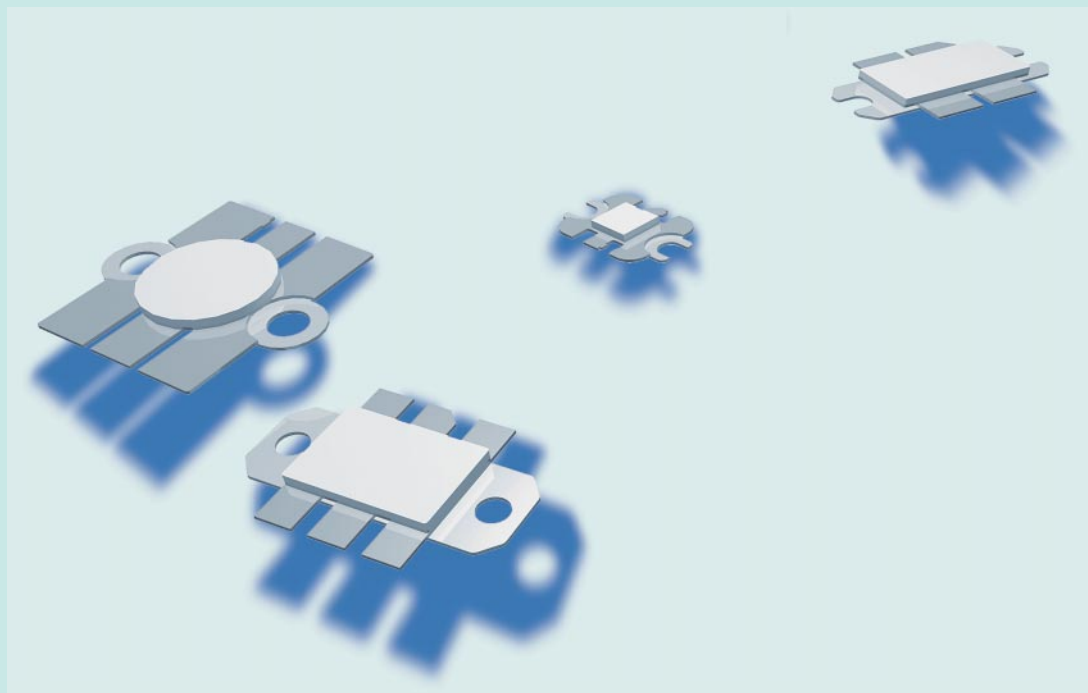
Applications		Product Number	Package Dimensions ◆	Output Power Po (W)	Input Power Pi (W)	Frequency Range f (MHz)	Vcc (V)
For Automobile-Use Equipment	HAM Radio Transmitter	<b>S-AV7</b>	5-53P	28	0.2	144 to 148	12.5 /12.5
		<b>S-AV17</b>	5-53L	60	0.4	144 to 148	12.5 /12.5
	Marine Radio Transmitter	<b>S-AV6</b>	5-53P	28	0.2	154 to 162	12.5 /12.5
	Business-Use Radio Transmitter	<b>S-AV10L</b>	5-53P	14	0.2	135 to 155	12.5 /12.5
		<b>S-AV10H</b>	5-53P	14	0.2	150 to 175	12.5 /12.5
		<b>S-AU27AL</b>	5-53Q	32	0.2	400 to 430	12.5 /12.5 /12.5
		<b>S-AU27AM</b>	5-53Q	32	0.2	450 to 490	12.5 /12.5 /12.5
<b>S-AU27AH</b>	5-53Q	32	0.2	490 to 512	12.5 /12.5 /12.5		
Portable Communication Equipment	HAM Radio Transmitter	<b>S-AU57</b>	5-23E	7	0.02	430 to 450	4 / 9.6
	Business-Use Radio Transmitter	<b>S-AU50L</b>	5-23E	7	0.05	400 to 430	4 / 9.6
		<b>S-AU50M</b>	5-23E	7	0.05	430 to 480	4 / 9.6
		<b>S-AU50H</b>	5-23E	6.5	0.05	470 to 520	4 / 9.6
		<b>S-AU68L</b>	5-23E	7	0.02	400 to 420	4 / 9.6
		<b>S-AU68M</b>	5-23E	7	0.02	450 to 470	4 / 9.6
	Cellular Phone	<b>S-AU80</b>	5-14A	2.8	0.001	880 to 915	2.5 / 3.6

◆ Please refer to pages 10 to 11 for package dimensions.

## ■ RF Power Module Product List by Product Number

Applications		Product Number	Frequency Range	Characteristics			Measuring Conditions		Package Dimensions ◆
			f (MHz)	P <sub>o</sub> (W)	$\eta_T$ (%)	$\rho_i$ (-)	P <sub>i</sub> (mW)	V <sub>CC</sub> (V)	
VHF	25 W FM Marine Radio Transmitter	<b>S-AV6</b>	154 to 162	28	45	2.0	200	12.5 / 12.5	5-53P
	25 W FM HAM Radio Transmitter	<b>S-AV7</b>	144 to 148	28	45	2.0	200	12.5 / 12.5	5-53P
	10 W FM Business-Use Radio Transmitter	<b>S-AV10L</b>	135 to 155	14	40	2.0	200	12.5 / 12.5	5-53P
		<b>S-AV10H</b>	150 to 175	14	40	2.0	200	12.5 / 12.5	5-53P
	50 W FM HAM Radio Transmitter	<b>S-AV17</b>	144 to 148	60	45	2.0	400	12.5 / 12.5	5-53L
UHF	25 W FM Business-Use Radio Transmitter	<b>S-AU27AL</b>	400 to 430	32	35	2.5	200	12.5 / 12.5 / 12.5	5-53Q
		<b>S-AU27AM</b>	450 to 490	32	35	2.5	200	12.5 / 12.5 / 12.5	5-53Q
		<b>S-AU27AH</b>	490 to 512	32	35	2.5	200	12.5 / 12.5 / 12.5	5-53Q
	5 W FM Portable Business-Use Radio Transmitter	<b>S-AU50L</b>	400 to 430	7	40	3.0	50	4 / 9.6	5-23E
		<b>S-AU50M</b>	430 to 480	7	40	2.5	50	4 / 9.6	5-23E
		<b>S-AU50H</b>	470 to 520	6.5	40	4.5	50	4 / 9.6	5-23E
	5 W FM Portable HAM Radio Transmitter	<b>S-AU57</b>	430 to 450	7	40	3.0	20	4 / 9.6	5-23E
	5 W FM Portable Business-Use Radio Transmitter	<b>S-AU68L</b>	400 to 420	7	35 <sup>*1</sup>	5.0 <sup>*1</sup>	20	4 / 9.6	5-23E
		<b>S-AU68M</b>	450 to 470	7	40 <sup>*1</sup>	2.5 <sup>*1</sup>	20	4 / 9.6	5-23E
	800 MHz	2 W GSM Cellular Radio	<b>S-AU80</b>	880 to 915	2.8	40 <sup>*5*6</sup>	30 <sup>*5</sup>	1	2.5 / 3.6

◆ Please refer to pages 10 to 11 for package dimensions. \*1: @P<sub>o</sub> = 7 W \*2: @P<sub>o</sub> = 6 W \*3: @P<sub>o</sub> = 31 dBmW \*4: @P<sub>o</sub> = 31.5 dBmW \*5: @P<sub>o</sub> = 34.5 dBmW \*6: @f = 915 MHz

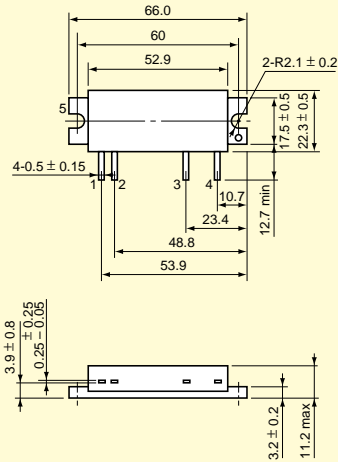


# RF POWER MODULE

## RF Power Module Package Dimensions

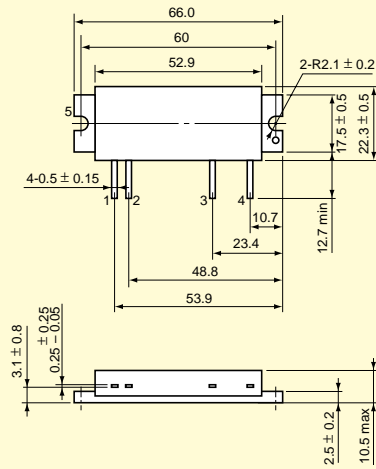
Unit: mm

### 5-53L



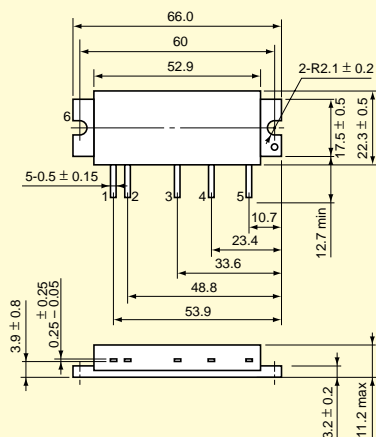
1. High-Frequency Input
2. VCON
3. VCC
4. High-Frequency Output
5. Ground (Flange)

### 5-53P



1. High-Frequency Input
2. VCON
3. VCC
4. High-Frequency Output
5. Ground (Flange)

### 5-53Q

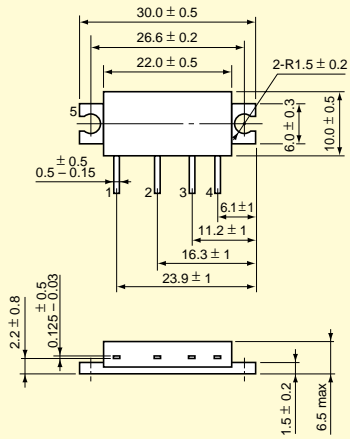


1. High-Frequency Input
2. VCC1
3. VCC2
4. VCC3
5. High-Frequency Output
6. Ground (Flange)



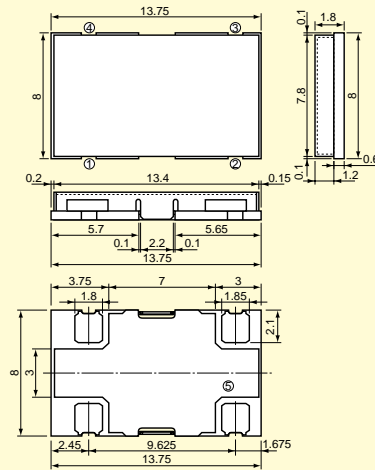
Unit: mm

### 5-23E



1. High-Frequency Input
2. VGG
3. VDD
4. High-Frequency Output
5. Ground (Flange)

### 5-14A



1. Pin
2. VGG
3. VDD
4. High-Frequency Output
5. GND

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