

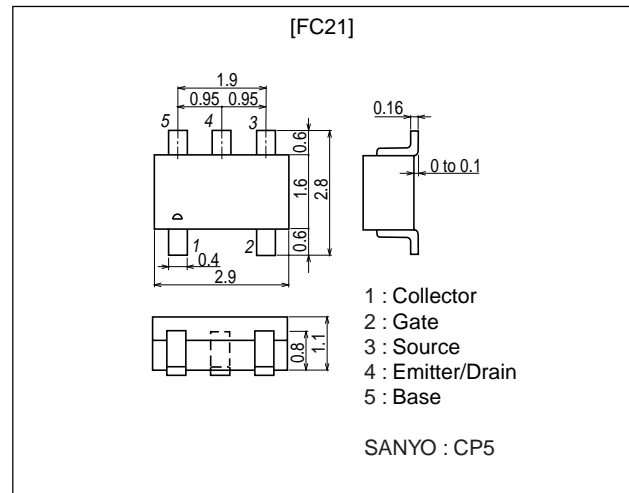
**FC21**

High-Frequency Amplifier, AM tuner RF Amplifier Applications

Features

- The FC21 contains both a 2SK1740 equivalent chip and a 2SC2812 equivalent chip in the CP package, thus realizes higher efficiency in device mounting on the PCB.

Package Dimensions

unit : mm
2122

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
[FET]				
Drain-to-Source Voltage	V_{DSX}		40	V
Gate-to-Drain Voltage	V_{GDS}		-40	V
Gate Current	I_G		10	mA
Drain Current	I_D		75	mA
Allowable Power Dissipation	P_D		400	mW
[TR]				
Collector-to-Base Voltage	V_{CBO}		55	V
Collector-to-Emitter Voltage	V_{CEO}		50	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		150	mA
Collector Current(Pulse)	I_{CP}		300	mA
Base Current	I_B		30	mA
Collector Dissipation	P_C		200	mW
[Common Ratings]				
Total Dissipation	P_T		600	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Marking : 1C

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Electrical Characteristics at Ta=25°C

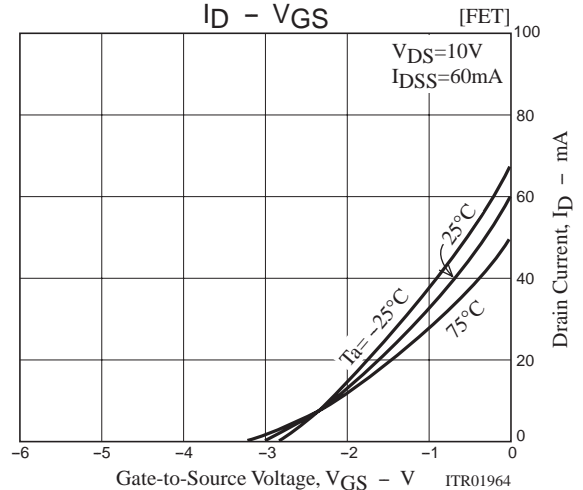
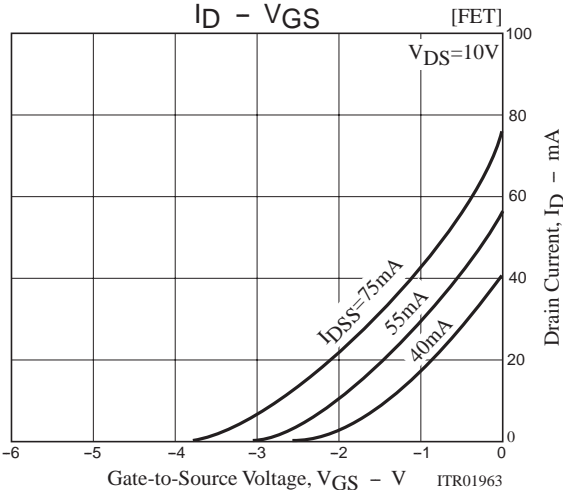
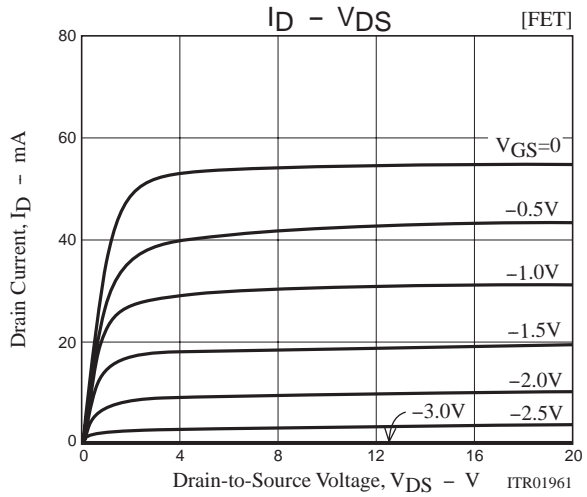
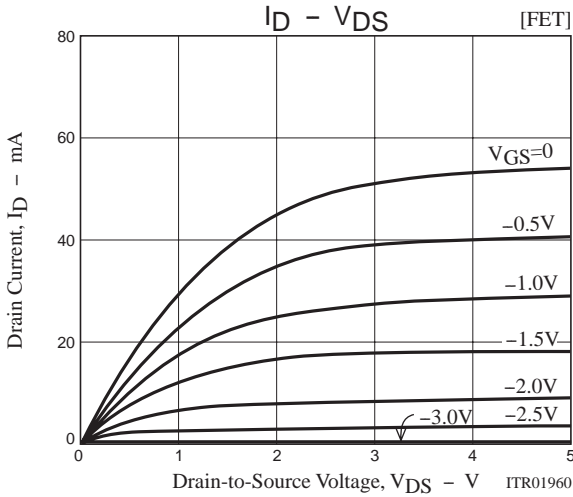
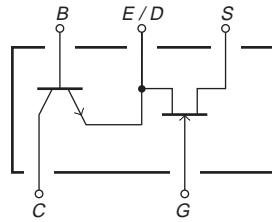
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[FET]						
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu A, V_{DS} = 0$	-40			V
Gate Cutoff Current	I_{GSS}	$V_{GS} = -20V, V_{DS} = 0$			-1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 100\mu A$	-2.0	-3.0	-5.0	V
Drain Current	I_{DSS}	$V_{DS} = 10V, V_{GS} = 0$	40*		75*	mA
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V, V_{GS} = 0, f = 1kHz$	22	30		mS
Input Capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$		11		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$		2.5		pF
Noise Figure	NF	$V_{DS} = 10V, R_g = 1k\Omega, I_D = 1mA, f = 1kHz$		1.5		dB
[TR]						
Collector Cutoff Current	I_{CBO}	$V_{CB} = 35V, I_E = 0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6V, I_C = 1mA$	135		600	
Gain-Bandwidth Product	f_T	$V_{CE} = 6V, I_C = 10mA$		100		MHz
Output Capacitance	C_{ob}	$V_{CB} = 6V, f = 1MHz$		3		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 5mA$		0.1	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50mA, I_B = 5mA$		0.8	1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	55			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6			V

* : The FC21 is classified by I_{DSS} as follows : (unit : mA)

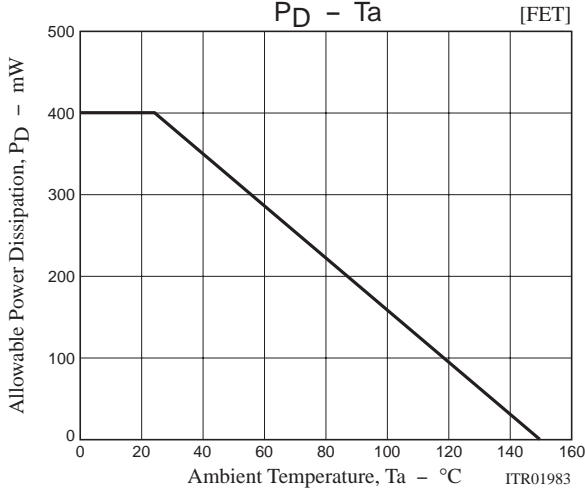
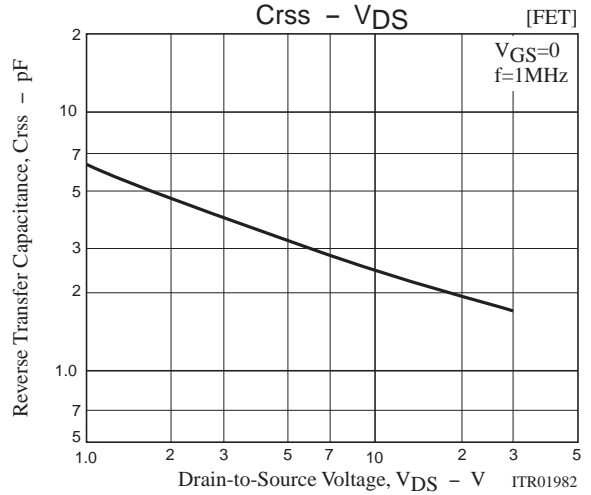
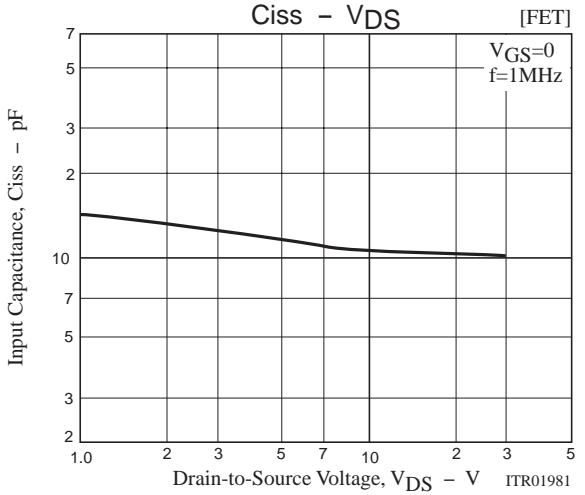
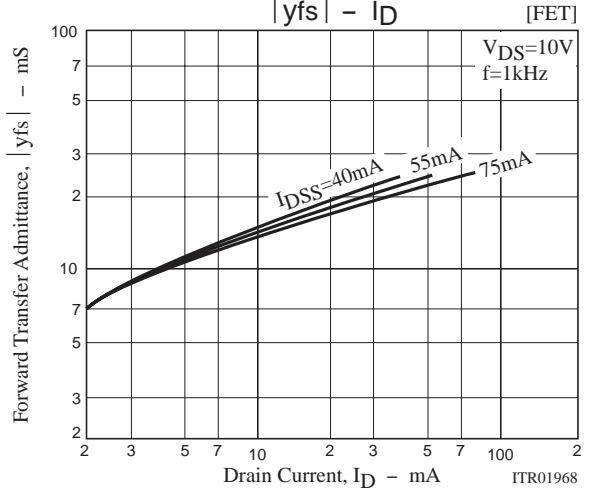
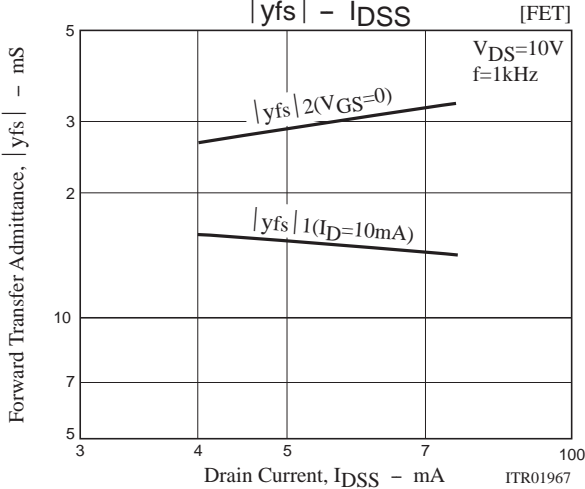
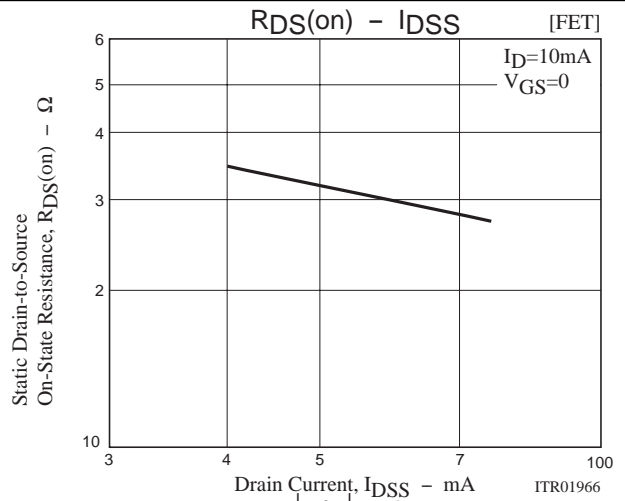
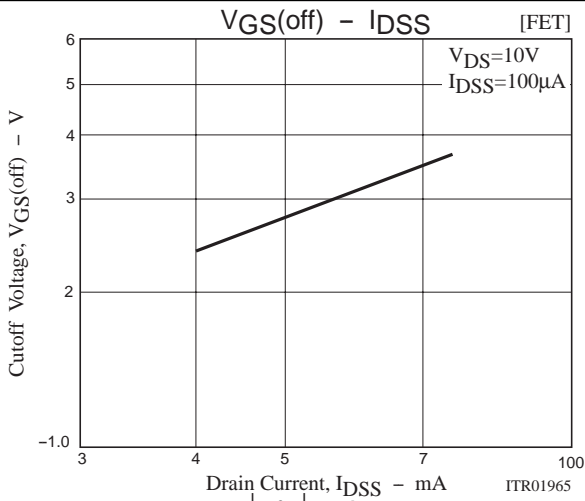
Rank	J	K	L
I_{DSS}	40 to 52	48 to 63	57 to 75

The specifications shown above are for each individual FET or transistor.

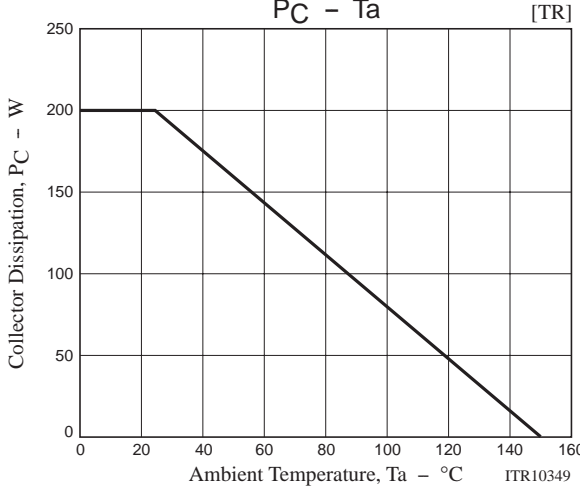
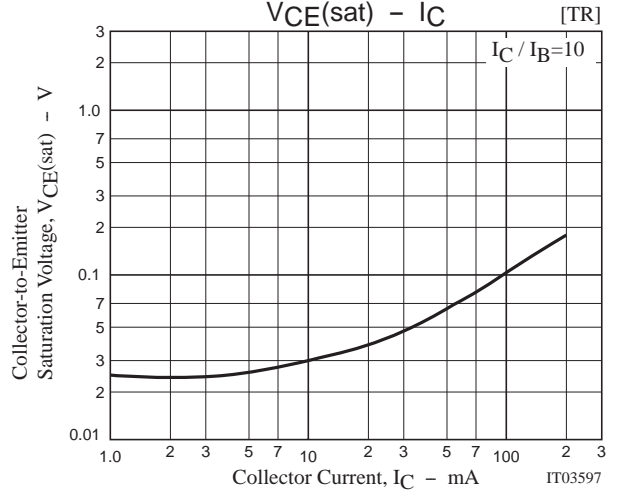
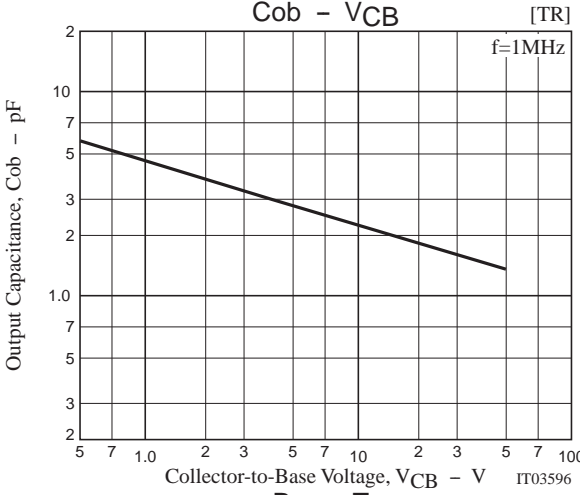
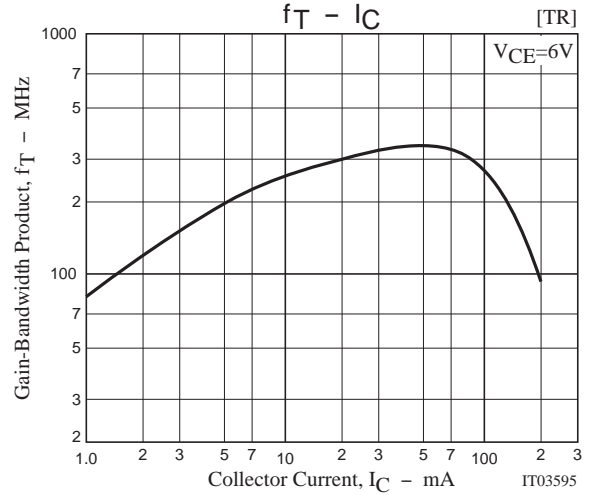
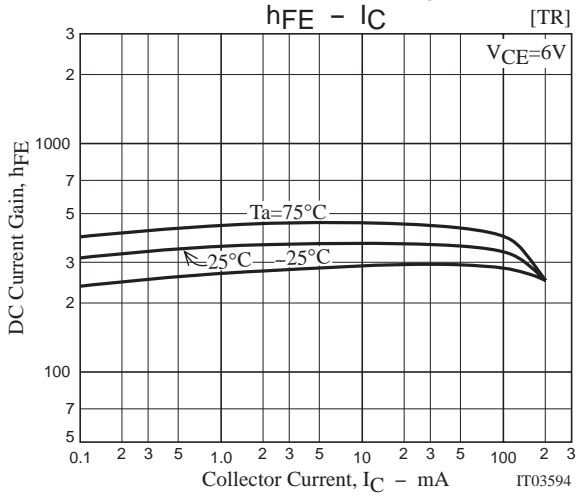
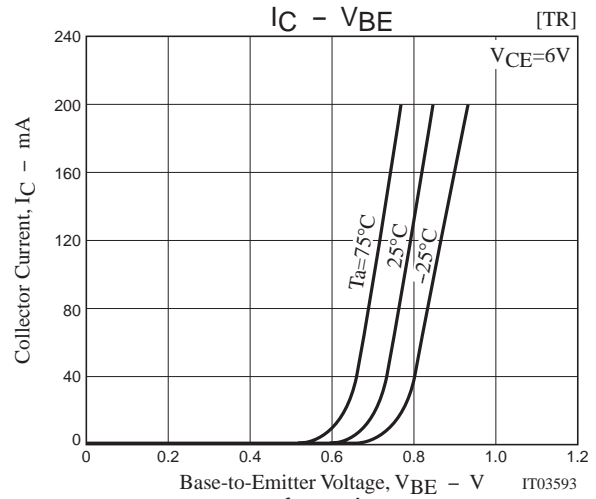
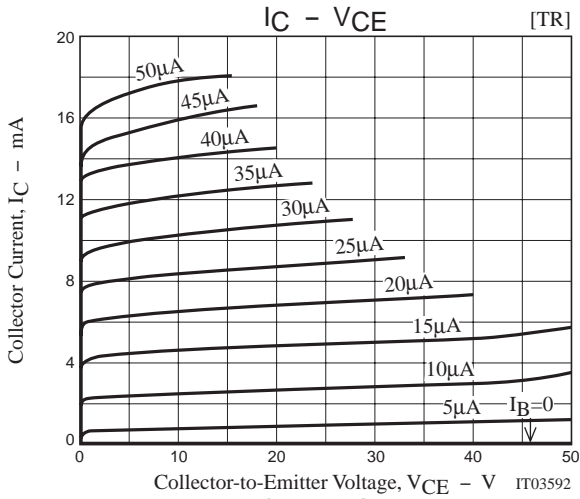
Electrical Connection



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