

FOR HIGH FREQUENCY AMPLIFY, MEDIUM FREQUENCY AMPLIFY
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

Mitsubishi 2SC2724 is a silicon NPN epitaxial type transistor.

FEATURE

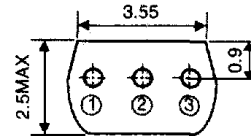
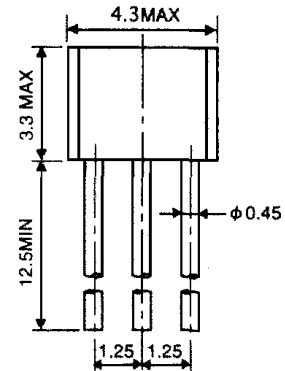
- High gain 10.7MHz, MAG=45dB typ
- Low noise figure 10.7MHz, NF=3.0dB typ
- Small package
- Low y_{re} 10.7MHz, $y_{re} = -j0.11mS$ typ

APPLICATION

High frequency oscillating, mix, frequency exchange and medium frequency amplifier of small type communication machine, small type radio.

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

- ① : EMMITER
 - ② : COLLECTOR
 - ③ : BASE
- EIAJ : —
JEDEC : —

Note)

The dimension without tolerance represent central value.

MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
VCBO	Collector to Base voltage	30	V
VEBO	Emitter to Base voltage	4	V
VCEO	Collector to Emitter voltage	25	V
Ic	Collector current	30	mA
Pc	Collector dissipation(Ta=25°C)	200	mW
Tj	Junction temperature	+125	°C
Tstg	Storage temperature	-55 to +125	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
IcBO	Collector cut off current	Vcb=30V,IE=0			1	μA
IEBO	Emitter cut off current	VEB=4V,IC=0			1	μA
hFE *	DC forward current gain	VCE=6V,IC=1mA	35		300	—
fT	Gain band width product	VCE=6V,IE=-1mA	150	200		MHz
Cob	Collector output capacitance	Vcb=6V,IE=0,f=1MHz		2.0	2.7	pF
Ccrt/b	Base time constant	Vcb=6V,IE=-1mA,f=31.8MHz		20	60	pS
NF	Noise figure	VCE=6V,IE=-1mA,f=10.7MHz,RG=500Ω		3.0		dB

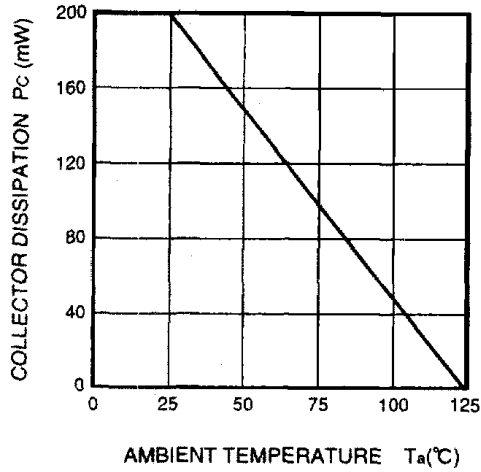
* : It shows hFE classification in right table.

Item	B	C	D	E
hFE	35 to 70	55 to 110	90 to 180	150 to 300

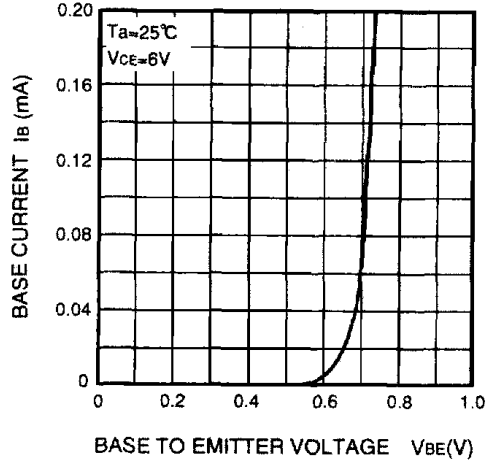
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TYPICAL CHARACTERISTICS

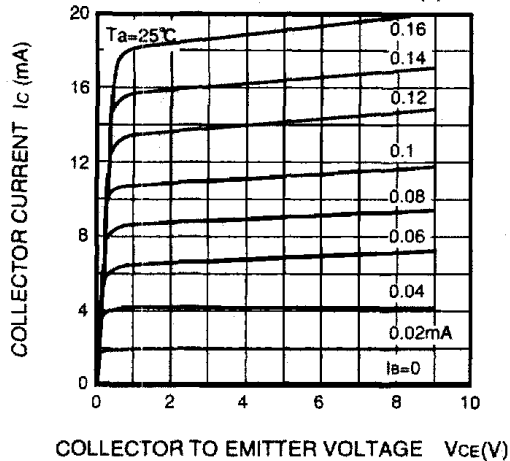
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



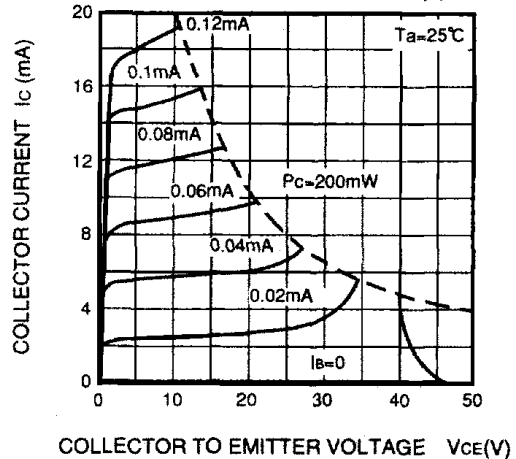
COMMON EMITTER INPUT



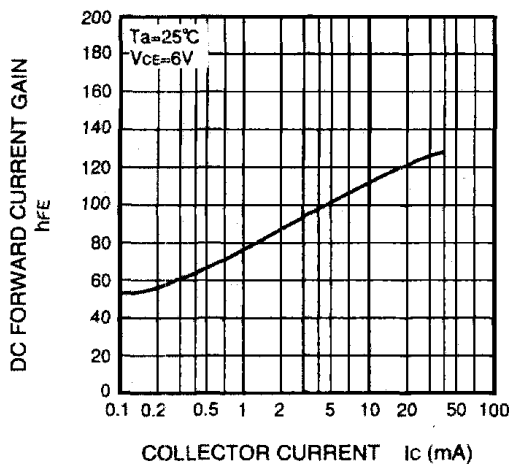
COMMON EMITTER OUTPUT (1)



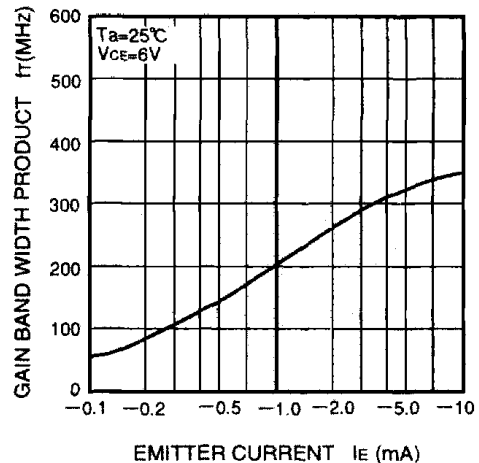
COMMON EMITTER OUTPUT (2)



DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT

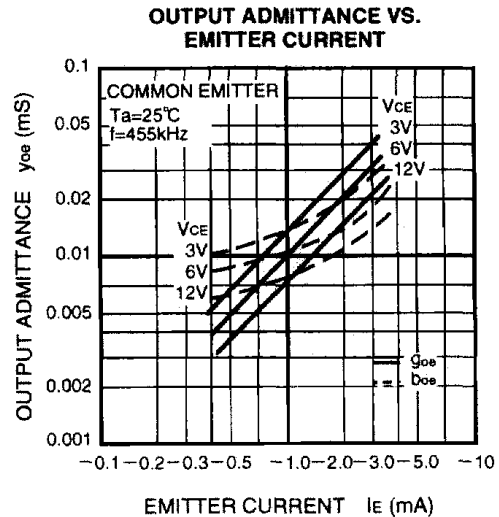
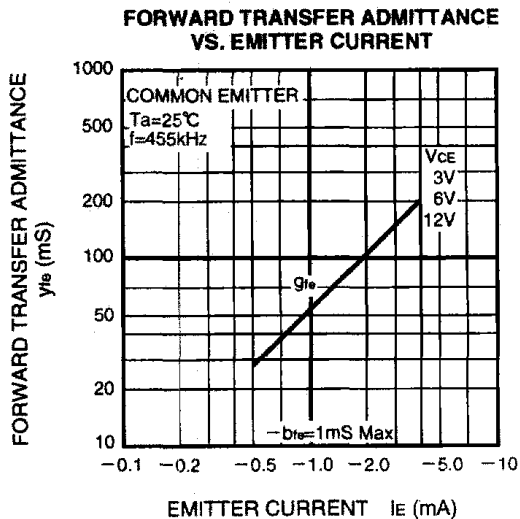
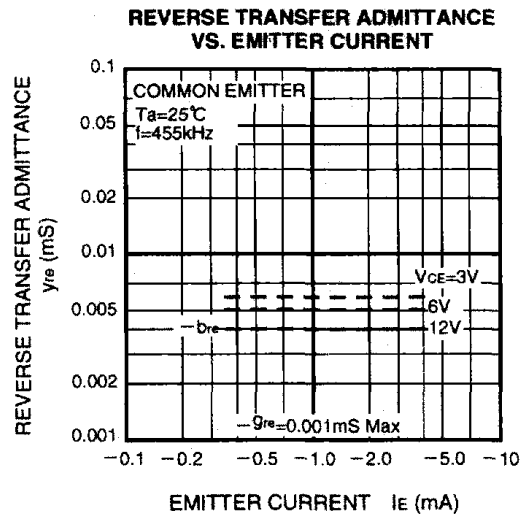
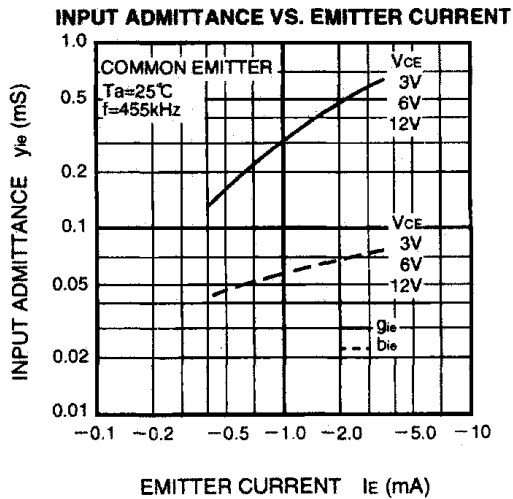


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COMMON EMITTER, y PARAMETER (TYPICAL VALUE) (Ta=25°C)

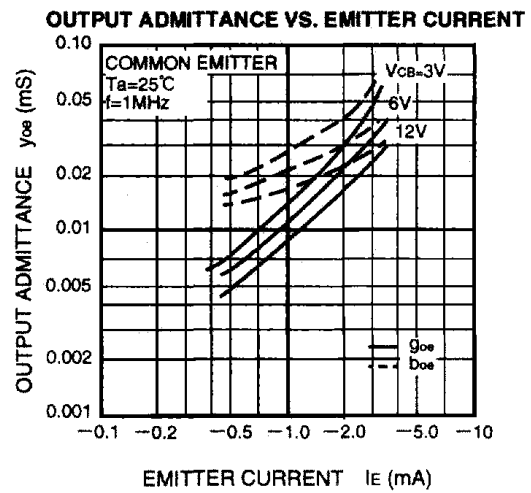
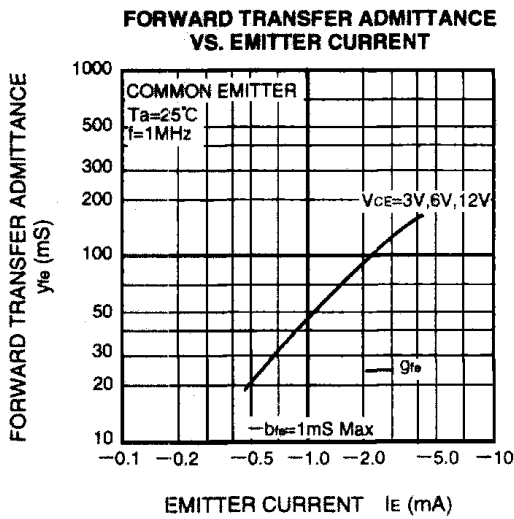
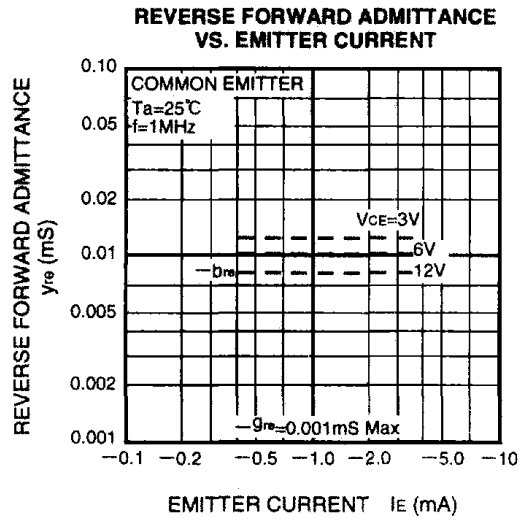
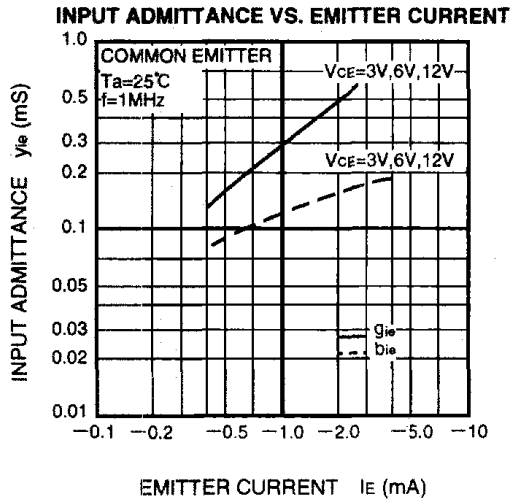
Test conditions		f=455kHz VCE=6V IE=-1mA	f=1MHz VCE=6V IE=-1mA	f=10.7MHz VCE=6V IE=-1mA	f=100MHz VCE=6V IE=-1mA
yie (mS)	gie	0.30	0.30	0.38	4.4
	bie	0.06	0.12	1.40	11.0
yre (mS)	-gre	0.001Max	0.001Max	0.005Max	0.05Max
	-bre	0.005	0.010	0.11	1.0
yte (mS)	gfe	50	46	37	25
	-bfe	1.0Max	1.0Max	2.8	16
yoe (mS)	goe	0.010	0.012	0.03	0.32
	boe	0.011	0.022	0.18	1.3

COMMON EMITTER, 455kHz y PARAMETER

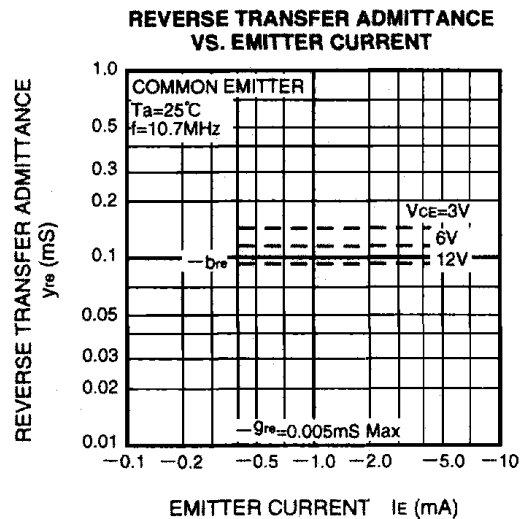
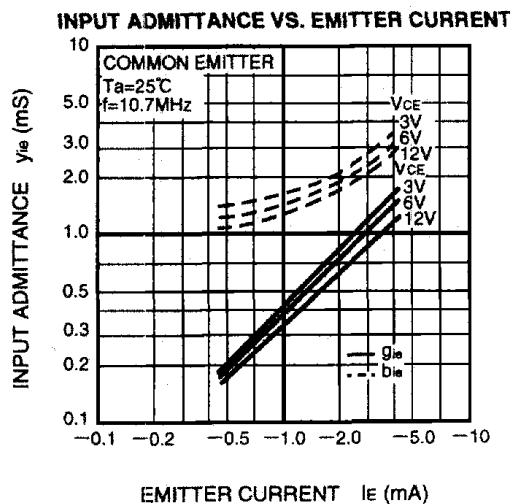


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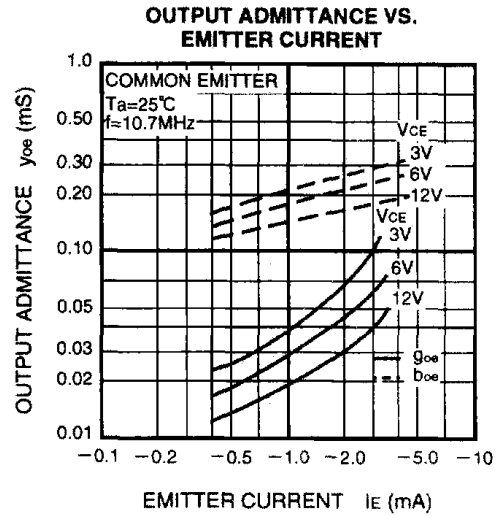
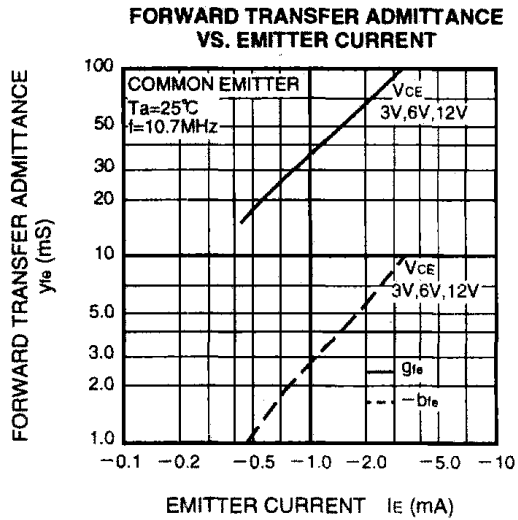
COMMON EMITTER, 1MHz y PARAMETER



COMMON EMITTER, 10.7MHz y PARAMETER



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COMMON EMITTER, 100MHz y PARAMETER

