

isc Silicon NPN RF Transistor

2SC4245

DESCRIPTION

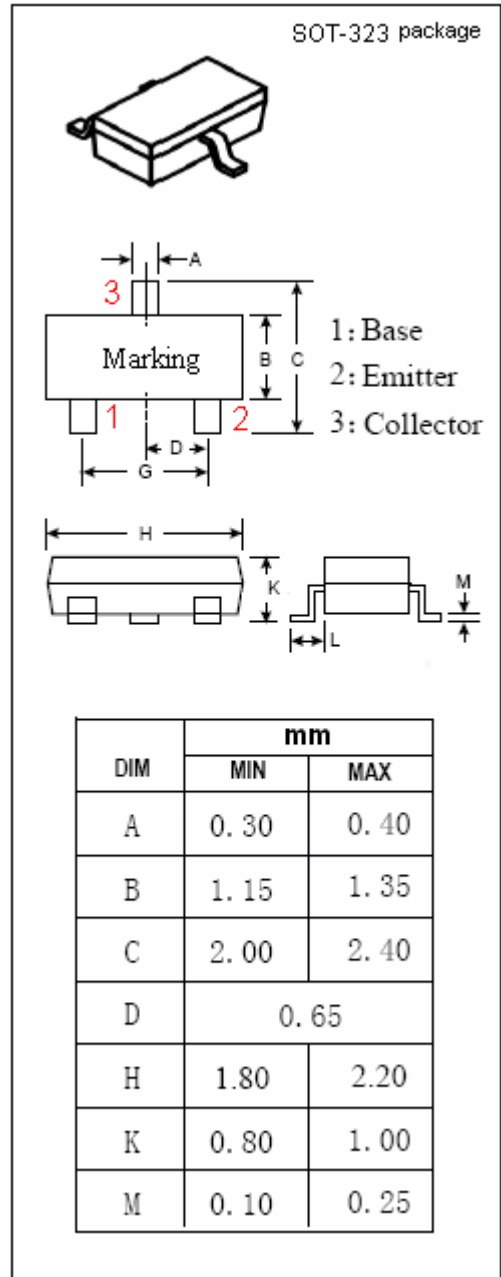
- High Current-Gain Bandwidth Product
 $f_T = 2400\text{MHz TYP. @ } V_{CE} = 10\text{ V, } I_C = 2\text{ mA}$
- Low Noise

APPLICATIONS

- TV tuner , UHF mixer applications
- VHF~UHF band RF amplifier applications

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current-Continuous	50	mA
I_B	Base Current-Continuous	25	mA
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	0.1	W
T_J	Junction Temperature	125	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~125	$^\circ\text{C}$



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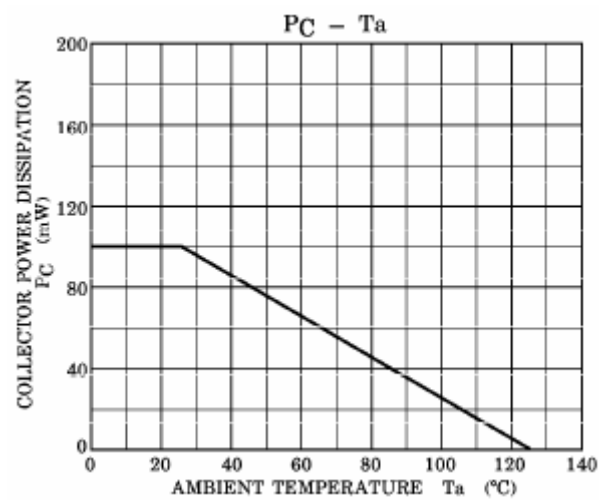
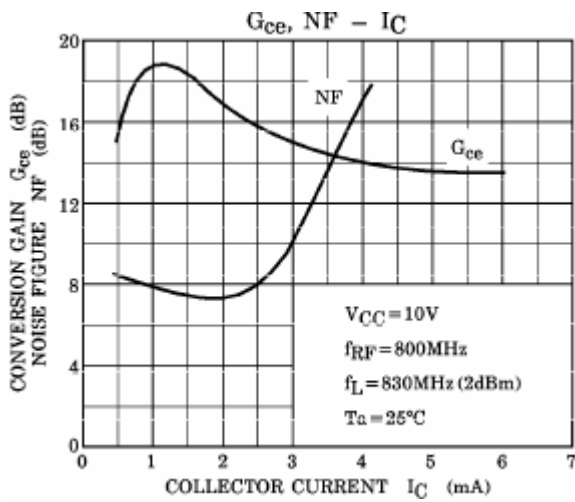
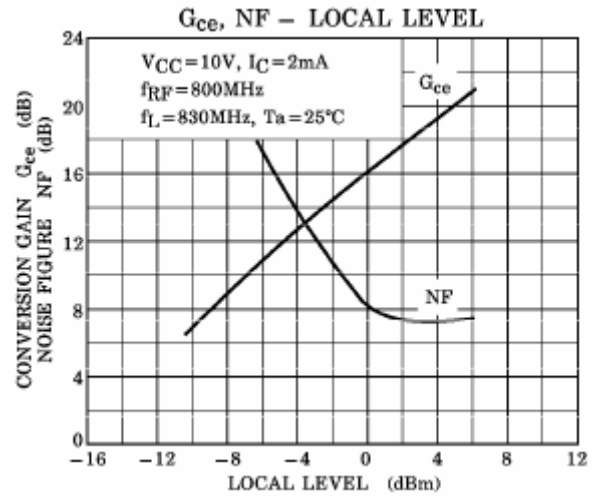
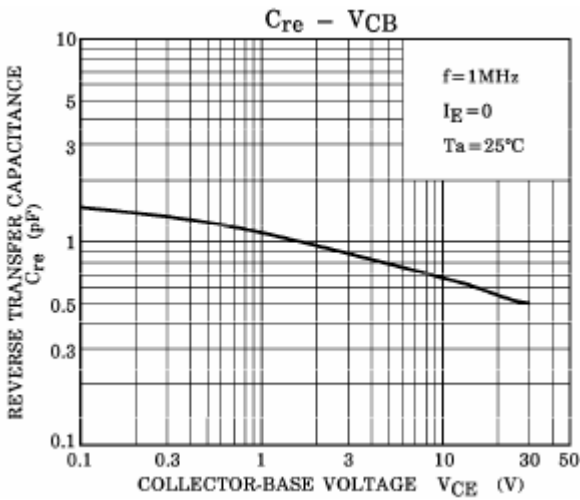
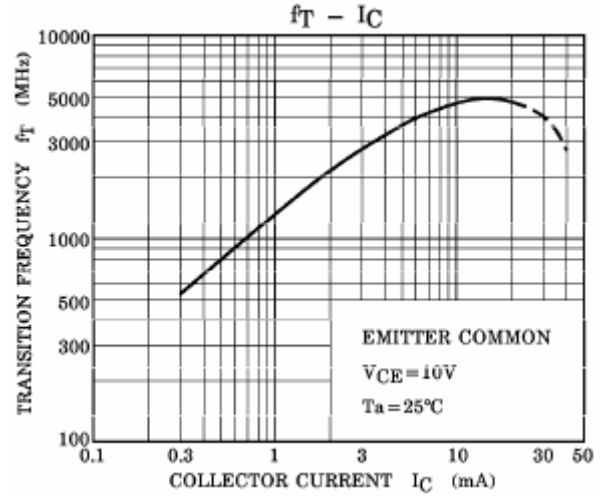
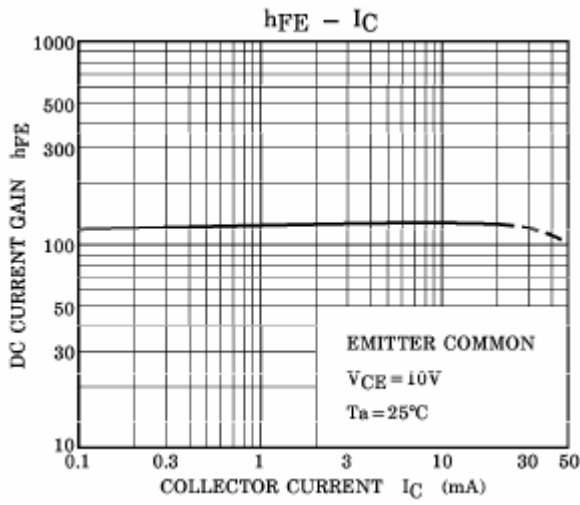
ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I_{CBO}	Collector Cutoff Current	$V_{CB}=30\text{V}; I_E=0$			0.1	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=2\text{V}; I_C=0$			1.0	μA
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}; I_B=0$	15			V
h_{FE}	DC Current Gain	$I_C=5\text{mA}; V_{CE}=10\text{V}$	40		200	
f_T	Current-Gain—Bandwidth Product	$I_C=2\text{mA}; V_{CE}=10\text{V}$	1500	2400		MHz
C_{re}	Feed-Back Capacitance	$I_E=0; V_{CB}=10\text{V}; f=1\text{MHz}$		0.6	0.9	pF
G_{ce}	Conversion Gain	$I_C=2\text{mA}; V_{CC}=10\text{V}; f=800\text{MHz}$ $f_L=830\text{MHz}(+2\text{dBm})$	12	17		dB
NF	Noise Figure			8	13	dB

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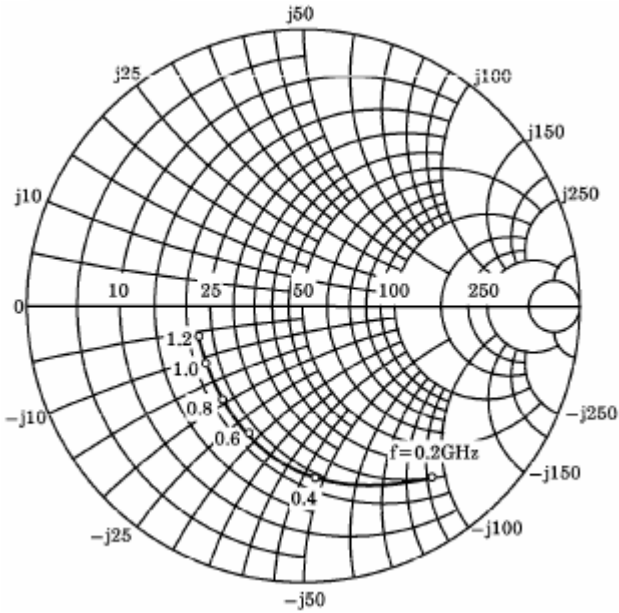
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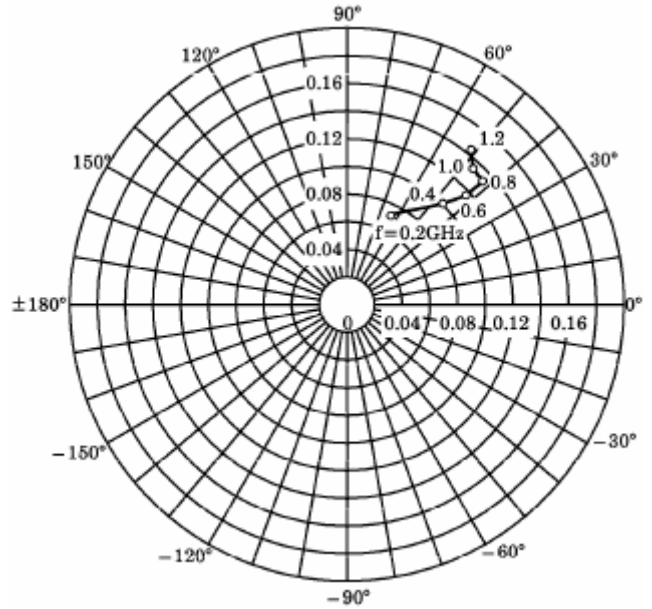
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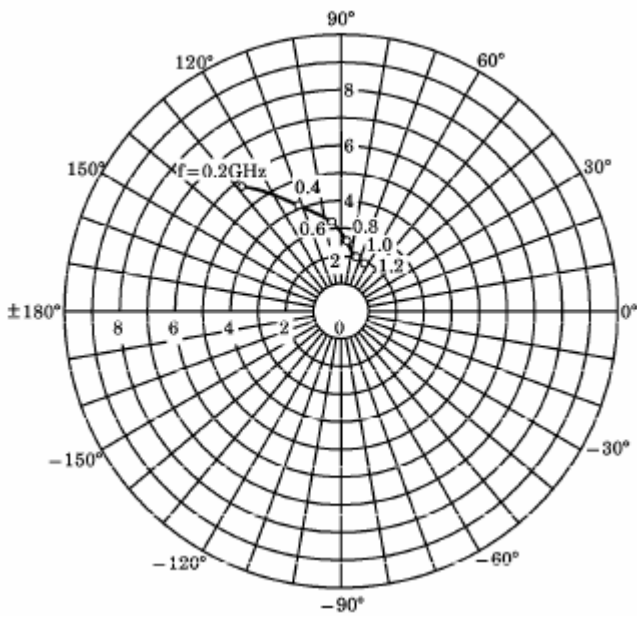
S_{11e}
 V_{CE} = 10V
 I_C = 2mA
 T_a = 25°C
 (UNIT : Ω)



S_{12e}
 V_{CE} = 10V
 I_C = 2mA
 T_a = 25°C



S_{21e}
 V_{CE} = 10V
 I_C = 2mA
 T_a = 25°C



S_{22e}
 V_{CE} = 10V
 I_C = 2mA
 T_a = 25°C
 (UNIT : Ω)

