

SANYO	No.931D	2SC2999
	NPN Epitaxial Planar Silicon Transistor	
HF Amp Applications		

Features

- FBET series.
- Very small-sized package permitting sets to be small-sized and slim.
- High f_T ($f_T=750\text{MHz}$ typ.) and small c_{re} ($c_{re}=0.6\text{pF}$ typ.)

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

			unit
Collector to Base Voltage	V _{CB0}	25	V
Collector to Emitter Voltage	V _{CE0}	20	V
Emitter to Base Voltage	V _{EB0}	3	V
Collector Current	I _C	30	mA
Collector Dissipation	P _C	150	mW
Junction Temperature	T _j	125	°C
Storage Temperature	T _{stg}	-40 to +125	°C

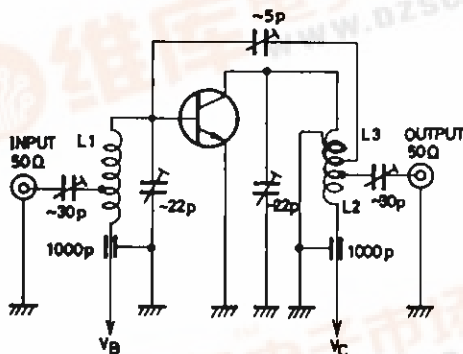
Electrical Characteristics at $T_a=25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I _{CBO}	V _{CB} =10V, I _E =0			0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =3V, I _C =0			0.1	μA
DC Current Gain	h _{FE}	V _{CE} =6V, I _C =1mA	40*		200*	
Gain-Bandwidth Product	f_T	V _{CE} =6V, I _C =4mA	450	750		MHz
Reverse Transfer Capacitance	c_{re}	V _{CB} =6V, f=1MHz		0.6	0.9	pF
Base to Collector Time Constant	$r_{bb'}C_c$	V _{CB} =6V, I _C =1mA, f=31.9MHz			19	ps
Noise Figure	NF	V _{CE} =6V, I _C =1mA, f=100MHz	2.2			dB
Power Gain	PG	V _{CE} =6V, I _C =1mA, f=100MHz	28			dB

*: The 2SC2999 is classified as follows according to h_{FE} at 1mA.

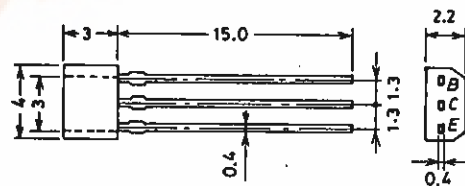
40 C 80	60 D 120	100 E 200
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NF, PG Test Circuit



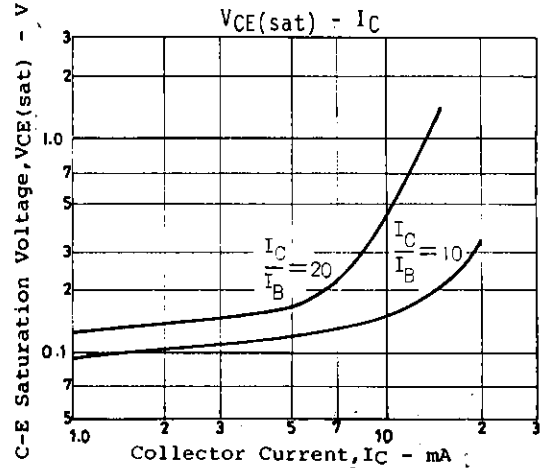
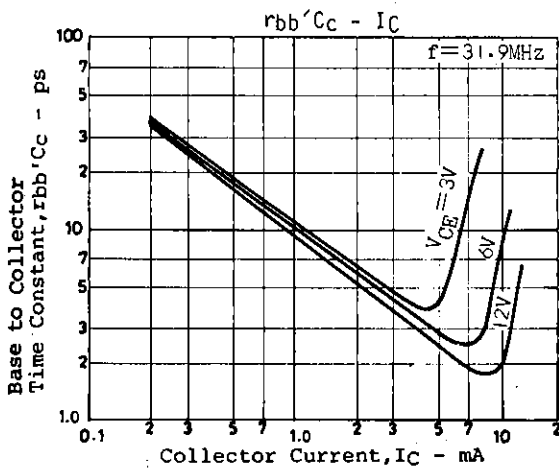
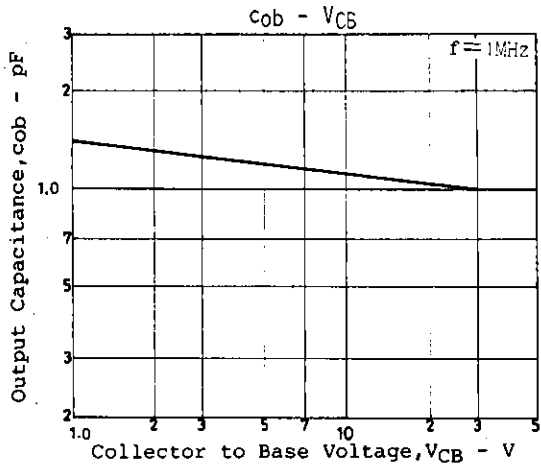
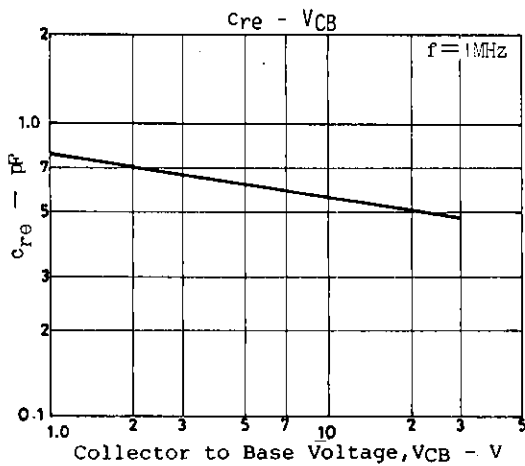
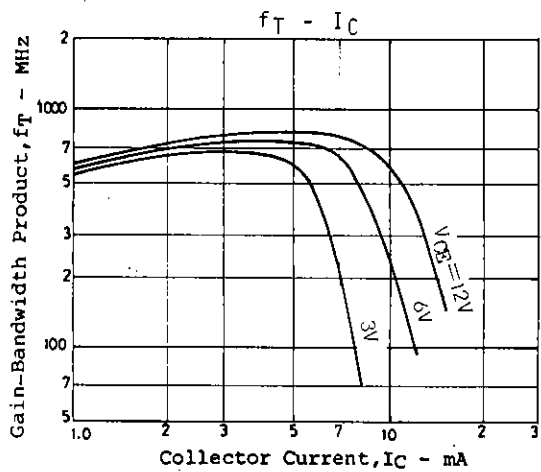
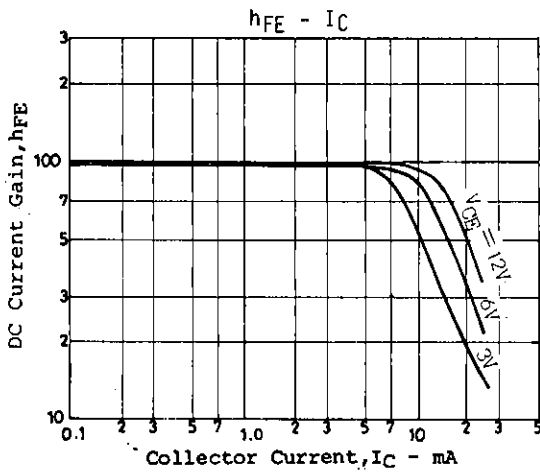
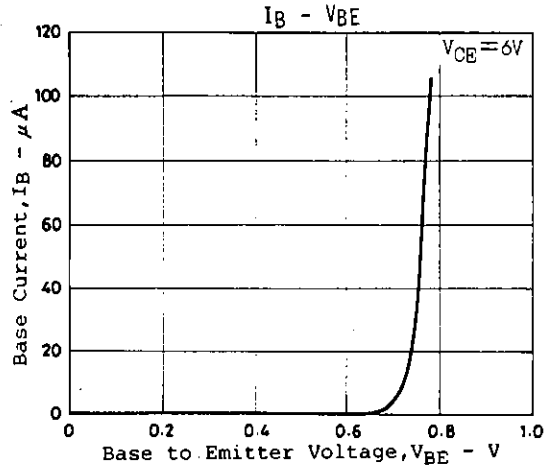
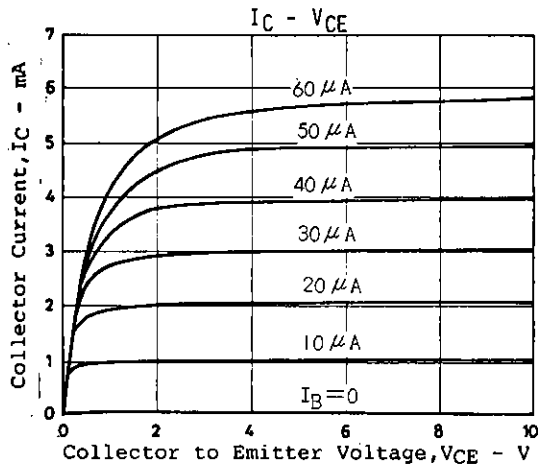
- L1: 1mm ϕ plated wire, 10mm ϕ 5T, pitch 15mm, tapped at 2T from base side.
 - L2: 1mm ϕ plated wire, 10mm ϕ 7T, pitch 10mm, tapped at 2T from V_C side.
 - L3: 1mm ϕ enameled wire, 10mm ϕ 3T, pitch 10mm.
- Unit(Capacitance : F)

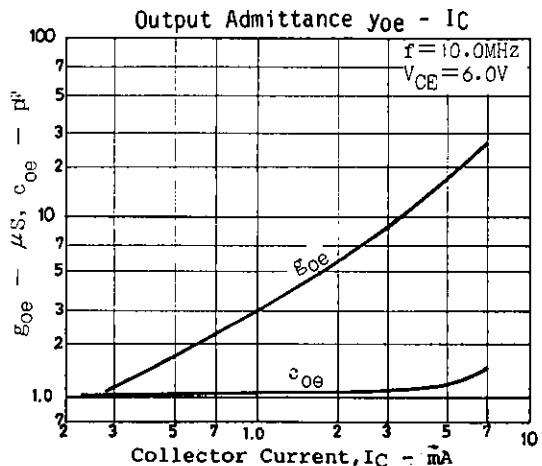
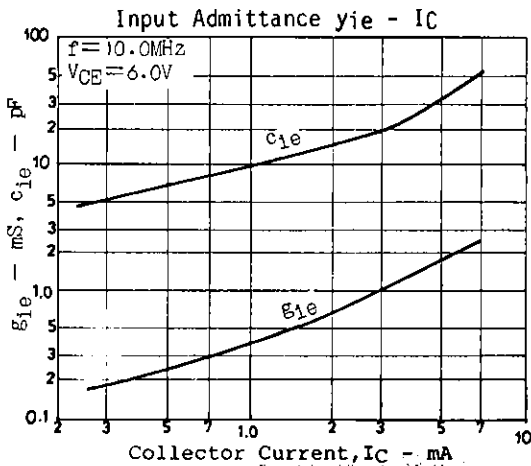
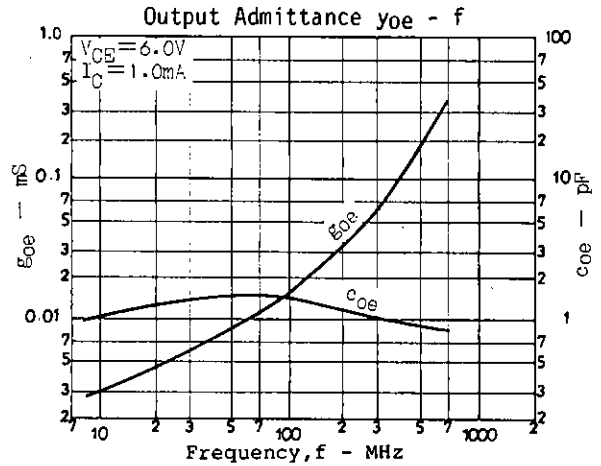
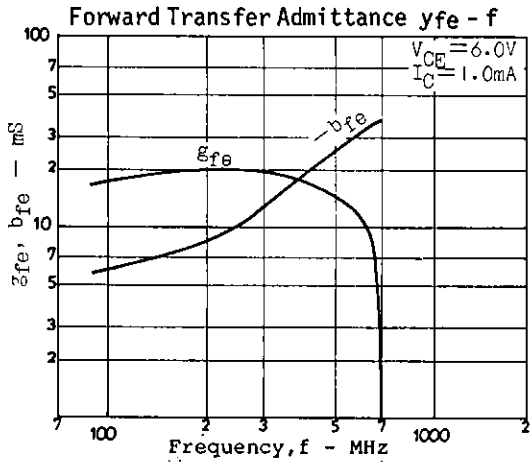
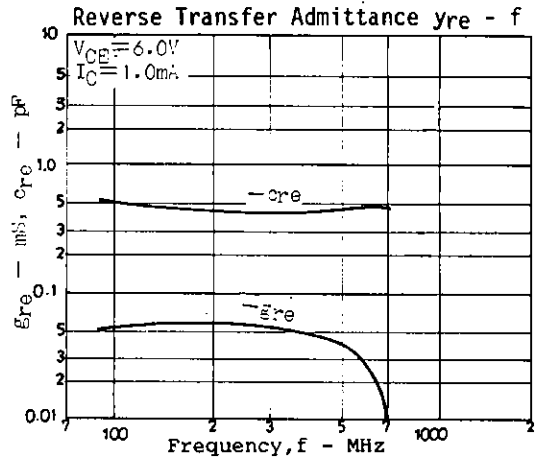
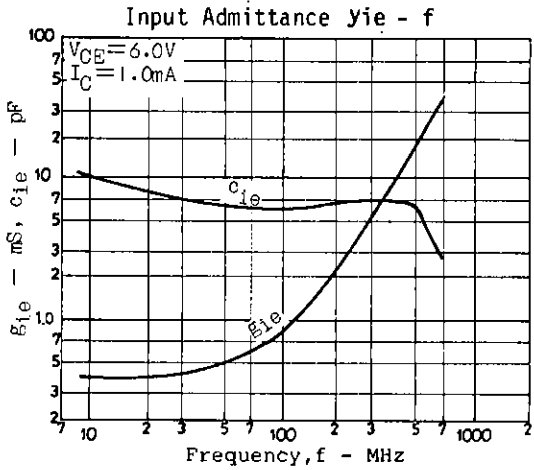
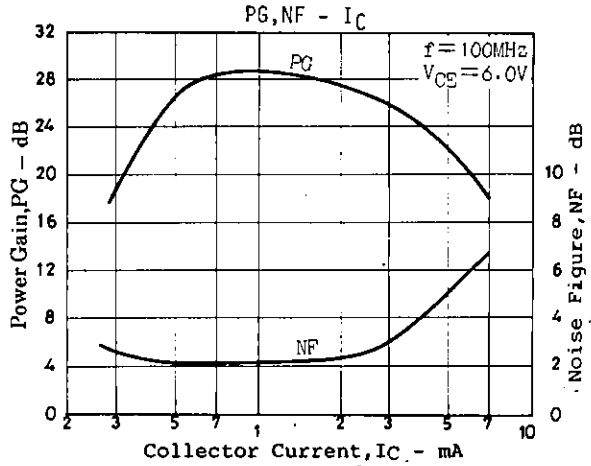
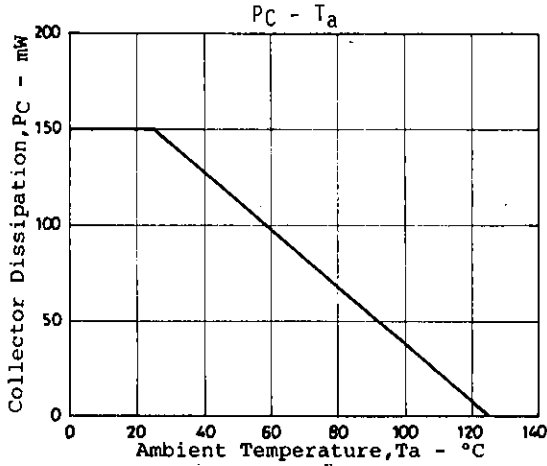
Package Dimensions 2033
(unit: mm)

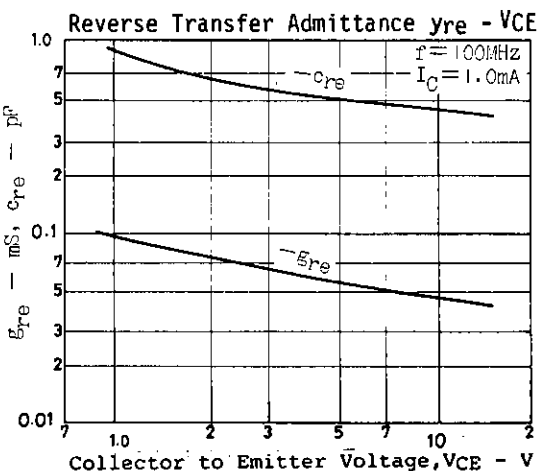
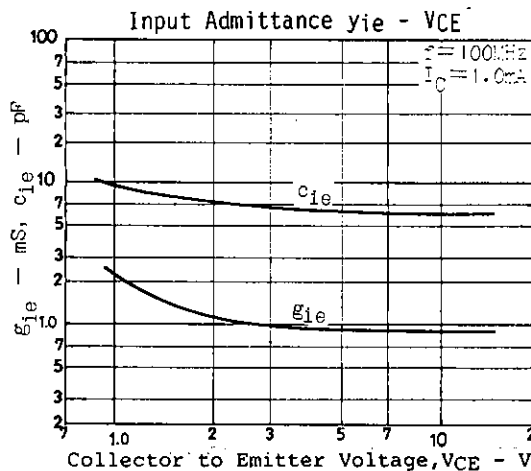
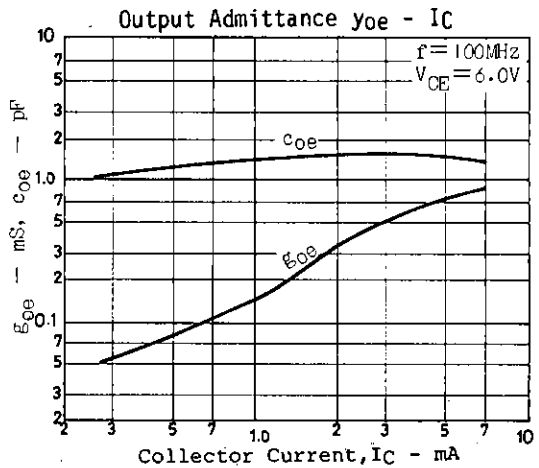
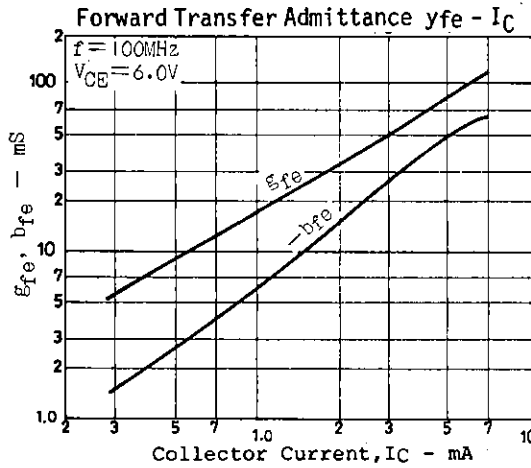
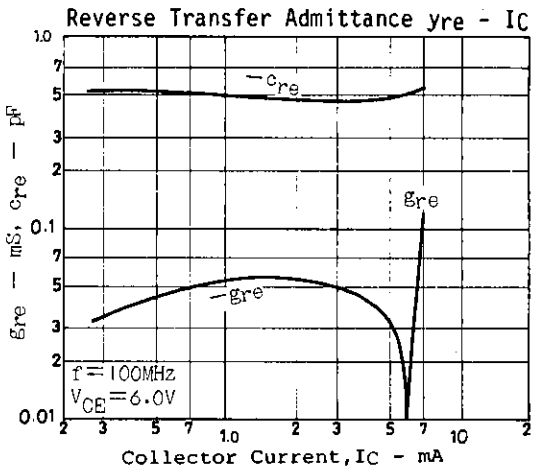
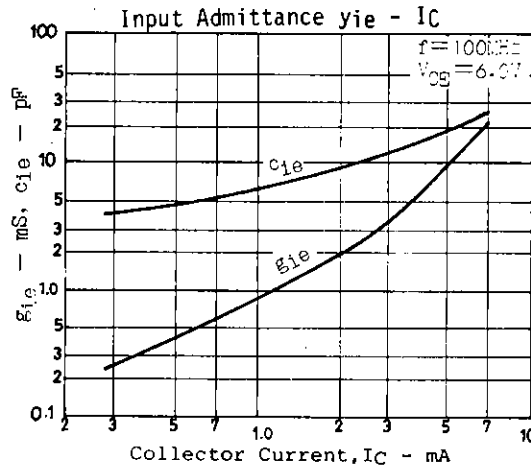
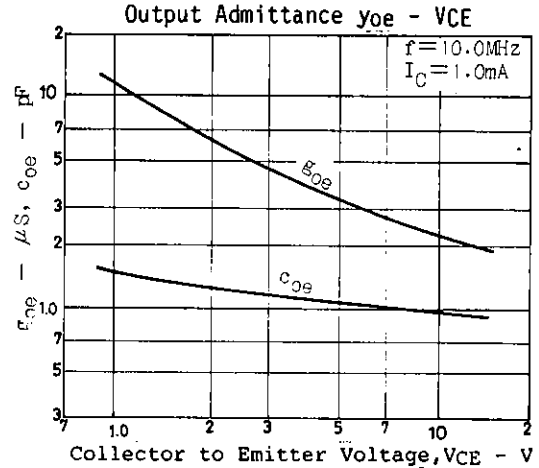
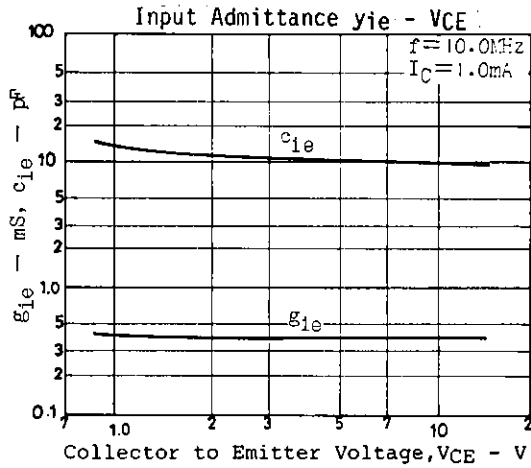


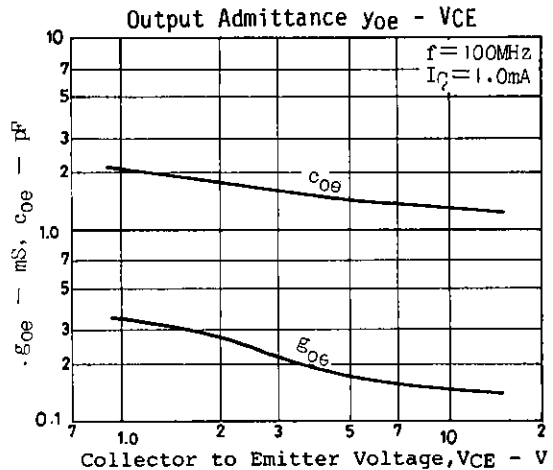
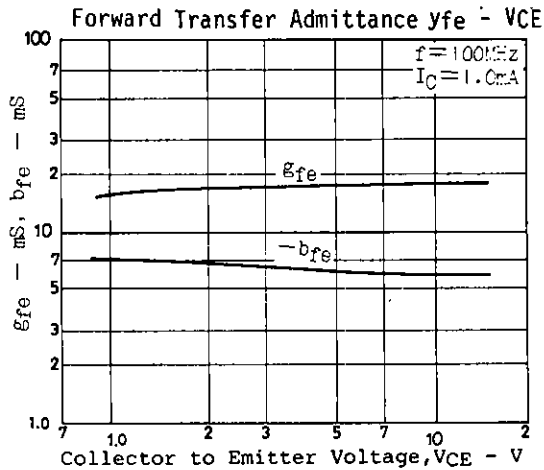
B: Base
C: Collector
E: Emitter
SANYO: SPA











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