Ordering number: EN1056C

SANYO

No.1056C

2SA1256

PNP Epitaxial Planar Silicon Transistor

High-Frequency Amp Applications

Applications

· Ideally suited for use in FM RF amplifiers, mixers, oscillators, converters, and IF amplifiers.

Features

· High f_T (230MHz typ), and small Cre (1.1pF typ).
· Small NF (2.5dB typ).

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector-to-Base Voltage	V_{CBO}	−30	V
Collector-to-Emitter Voltage	V_{CEO}	−20	V
Emitter-to-Base Voltage	V_{EBO}	−5	V
Collector Current	I_C	−30	mA
Collector Dissipation	P_C	150	W
Junction Temperature	Tj	125	°C
Storage Temperature	Tstg	−55 to +125	°C

Electrical Characteristics at Ta = 25°C

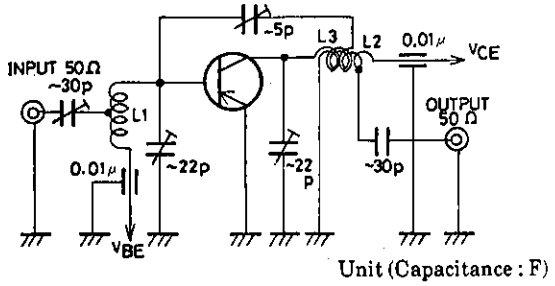
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = −10V, I_E = 0			−0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = −4V, I_C = 0			−0.1	μA
DC Current Gain	h_{FE}	V_{CE} = −6V, I_C = −1mA	60※		270※	
Gain-Bandwidth Product	f_T	V_{CE} = −6V, I_C = −1mA	150	230		MHz
Reverse Transfer Capacitance	Cre	V_{CB} = −6V, f = 1MHz		1.1	1.7	pF
Base-to-Collector Time Constant	$r_{bb}'Cc$	V_{CE} = −6V, I_C = −1mA, f = 31.9MHz		11	20	ps
Noise Figure	NF	V_{CE} = −6V, I_C = −1mA, f = 100MHz		2.5		dB
Voltage Gain	PG	V_{CE} = −6V, I_C = −1mA, f = 100MHz		22		dB

※ : The 2SA1256 is classified by 1mA h_{FE} as follows :

60 E3 120	90 E4 180	135 E5 180

Note) Marking : E
h_{FE} rank : 3, 4, 5

NF, PG Test Circuit

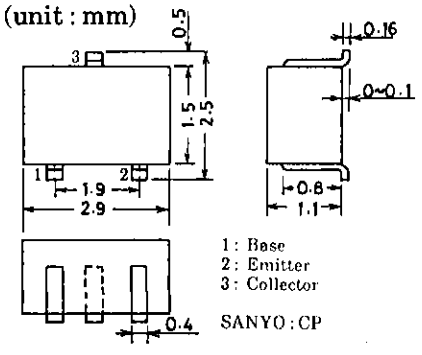


Unit (Capacitance : F)

L1 : 1mmø plated wire 10mmø 5T, tap : 2T from V_{BE} side
L2 : 1mmø plated wire 10mmø 7T, tap : 1T from V_{CE} side
L3 : 1mmø enamel wire 10mmø 3T

Package Dimensions 2018B

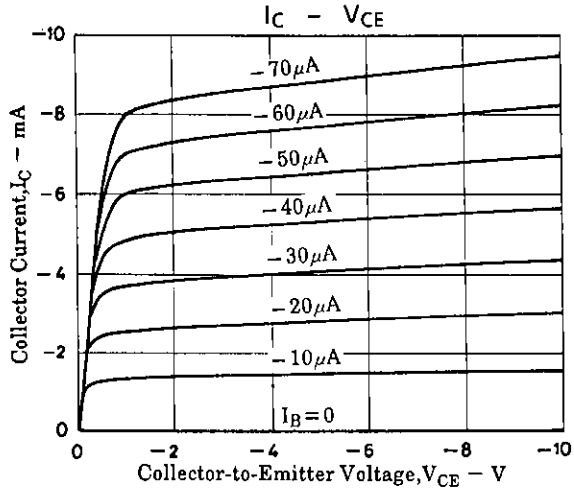
(unit : mm)



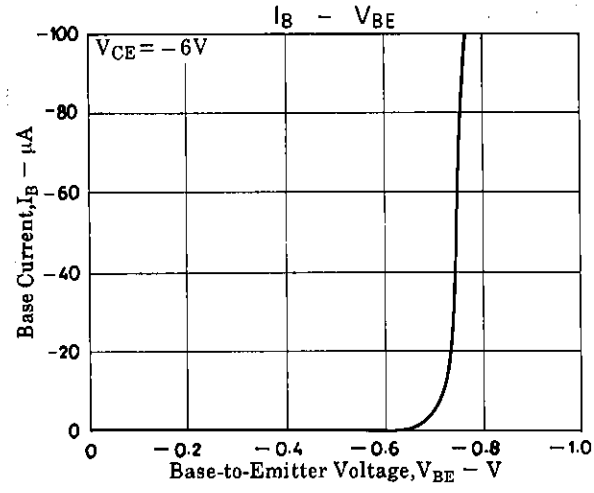
1 : Base
2 : Emitter
3 : Collector
SANYO : CP

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TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

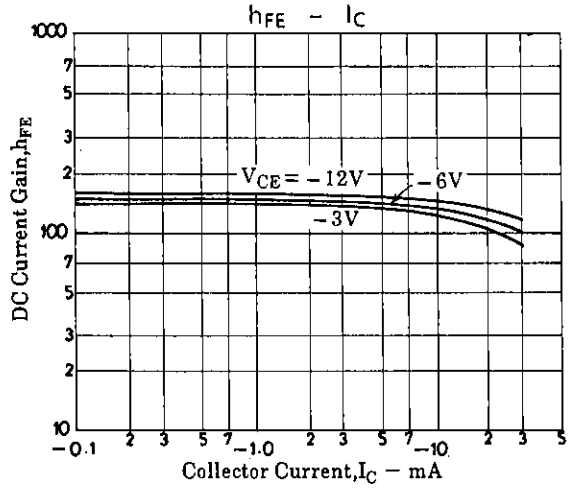
I_C – V_{CE}



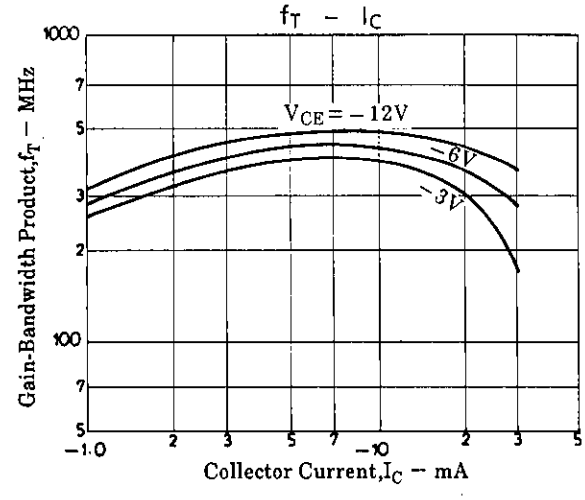
I_B – V_{BE}



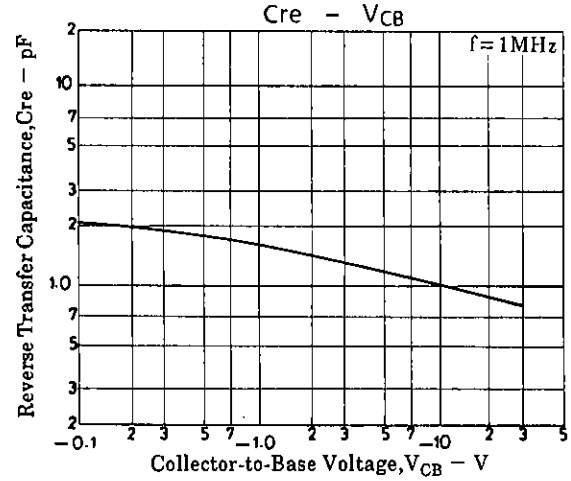
h_{FE} – I_C



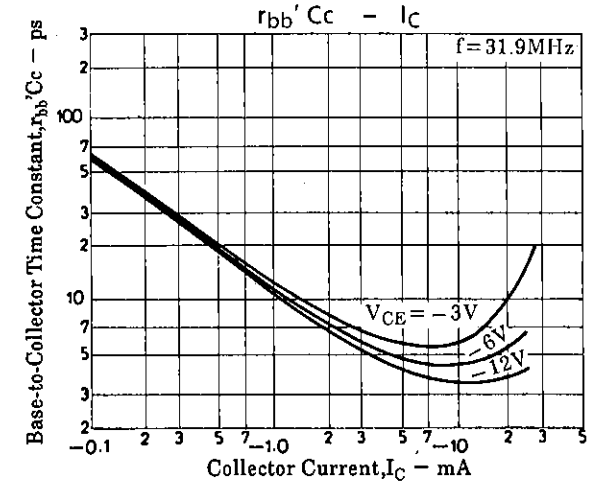
f_T – I_C



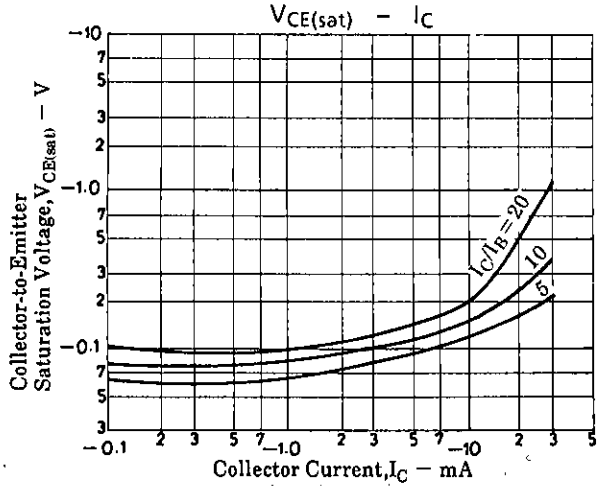
Cre – V_{CB}



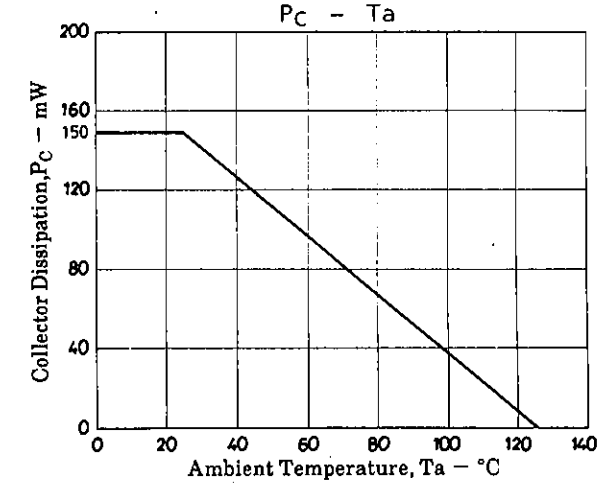
$r_{bb}'Cc$ – I_C



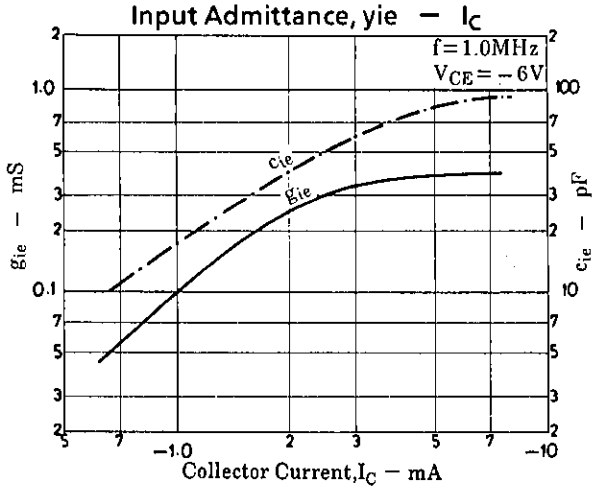
$V_{CE(sat)}$ – I_C



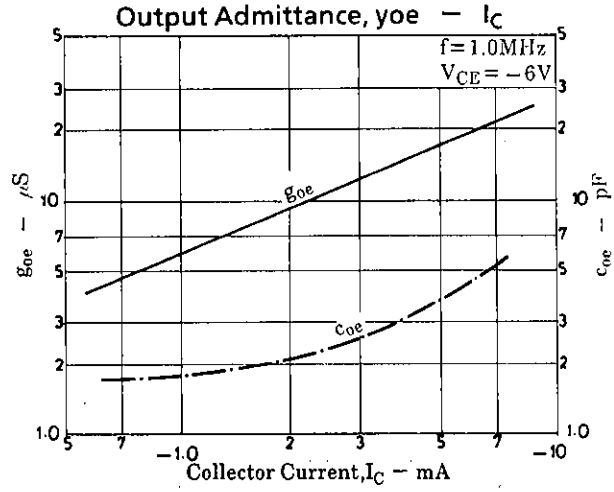
P_C – Ta



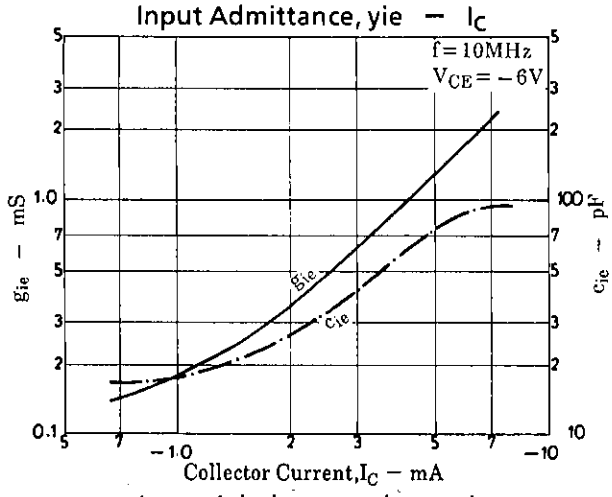
Input Admittance, yie — I_C



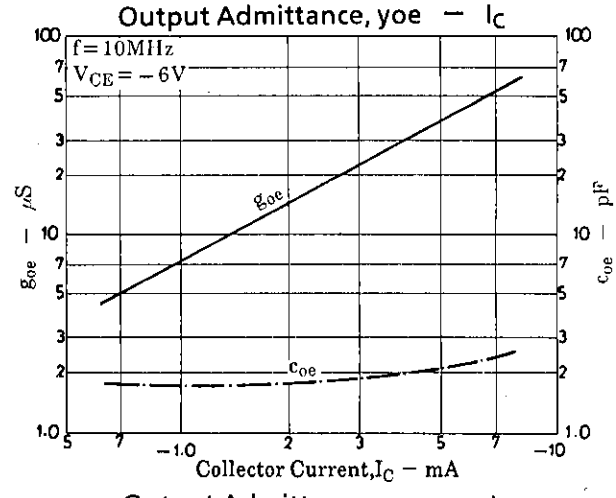
Output Admittance, yoe — I_C



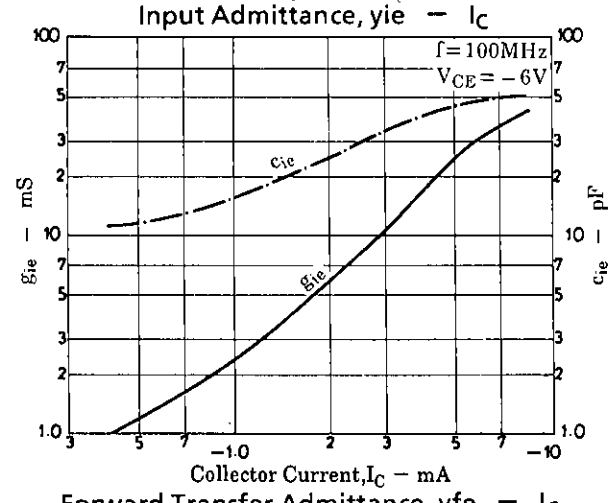
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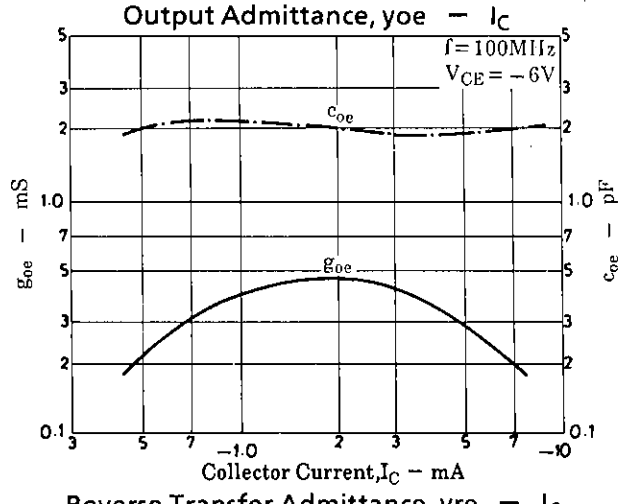
Output Admittance, yoe — I_C



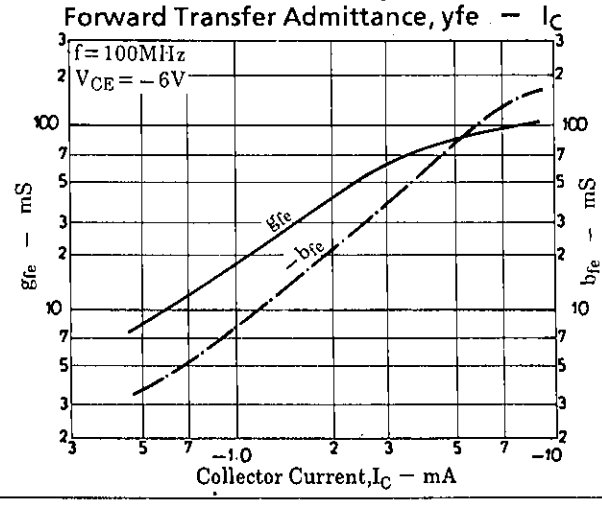
Input Admittance, yie — I_C



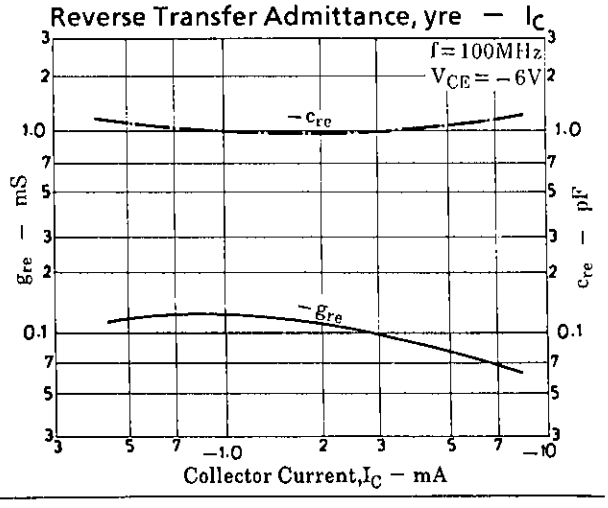
Output Admittance, yoe — I_C



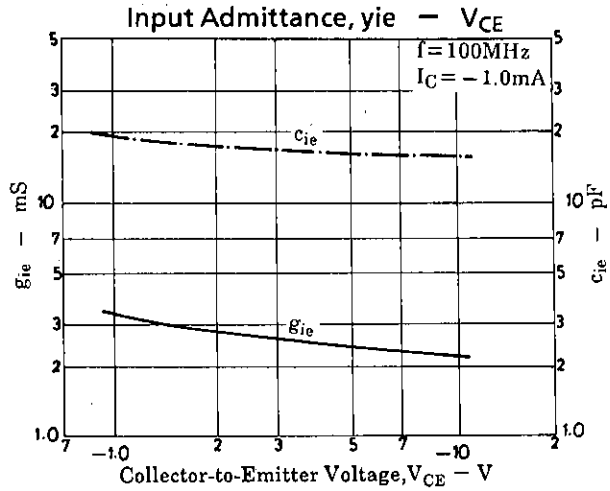
Forward Transfer Admittance, yfe — I_C



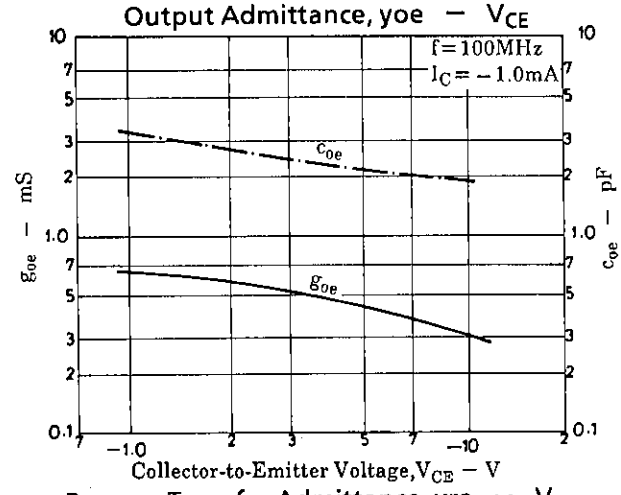
Reverse Transfer Admittance, yre — I_C



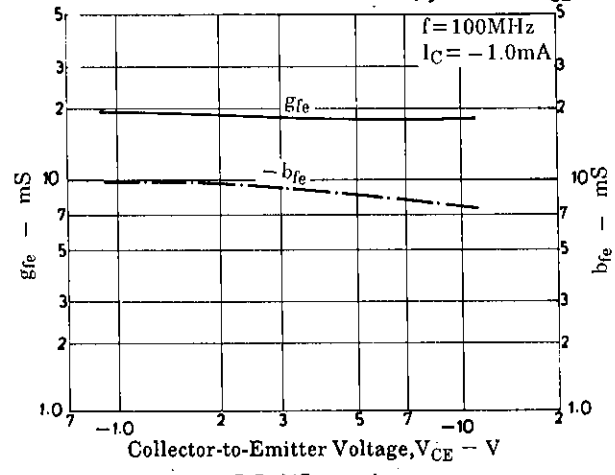
Input Admittance, yie — V_{CE}



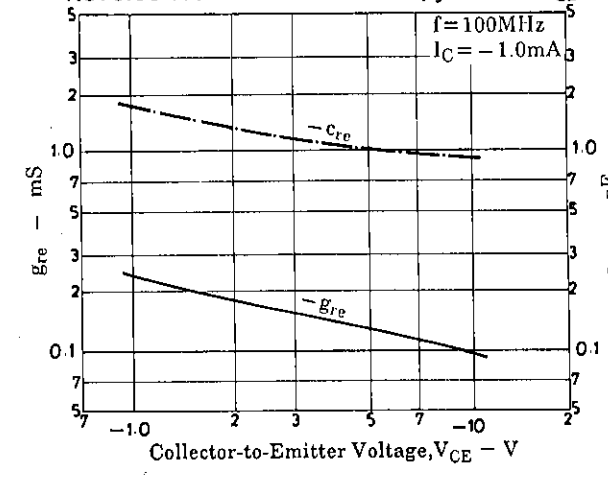
Output Admittance, yoe — V_{CE}



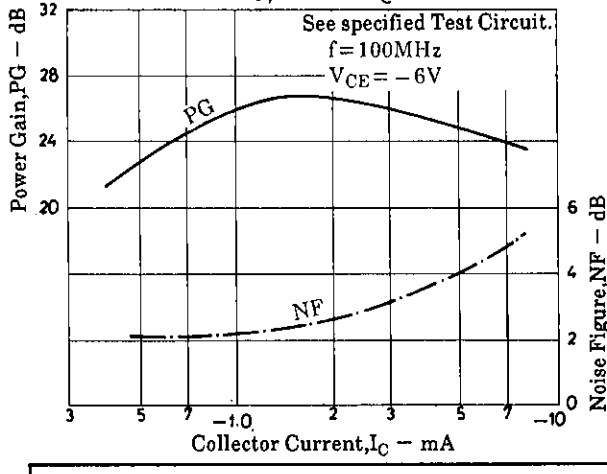
Forward Transfer Admittance, yfe — V_{CE}



Reverse Transfer Admittance, yre — V_{CE}



PG, NF — I_C



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