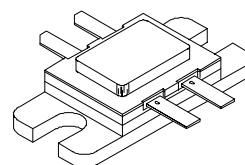


RF & MICROWAVE TRANSISTORS UHF PULSED APPLICATIONS

- 500 WATTS @ 250μSec PULSE WIDTH, 10% DUTY CYCLE
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- INFINITE VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION
- BALANCED CONFIGURATION



.400 x .500 4LFL (M102)

hermetically sealed

ORDER CODE

SD1565

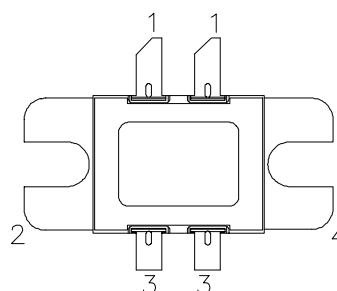
BRANDING

SD1565

DESCRIPTION

The SD1565 is a hermetically sealed, gold metallized silicon NPN pulse power transistor mounted in a common base balanced configuration. The SD1565 is designed for applications requiring high peak power and low duty cycles within the frequency range of 400 - 500 MHz.

PIN CONNECTION



- | | |
|--------------|------------|
| 1. Collector | 3. Emitter |
| 2. Base | 4. Base |

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	65	V
V _{CES}	Collector-Emitter Voltage	65	V
V _{EBO}	Emitter-Base Voltage	3.5	V
I _C	Device Current	43.2	A
P _{DISS}	Power Dissipation	1167	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to +200	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	0.15	°C/W
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ELECTRICAL SPECIFICATIONS ($T_{case} = 25^{\circ}C$)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 50\text{ mA}$	$I_E = 0\text{ mA}$	65	—	—	V
BV_{CES}	$I_C = 50\text{ mA}$	$V_{BE} = 0\text{ V}$	65	—	—	V
BV_{EBO}	$I_E = 10\text{ mA}$	$I_C = 0\text{ mA}$	3.5	—	—	V
I_{CES}	$V_{CE} = 30\text{ V}$	$I_E = 0\text{ mA}$	—	—	15	mA
h_{FE}	$V_{CE} = 5\text{ V}$	$I_C = 5\text{ A}$	20	—	200	—

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 425\text{ MHz}$	$P_{IN} = 54\text{ W}$	$V_{CE} = 40\text{ V}$	500	—	—	W
P_G	$f = 425\text{ MHz}$	$P_{IN} = 54\text{ W}$	$V_{CE} = 40\text{ V}$	9.7	—	—	dB
η_c	$f = 425\text{ MHz}$	$P_{IN} = 54\text{ W}$	$V_{CE} = 40\text{ V}$	50	—	—	%

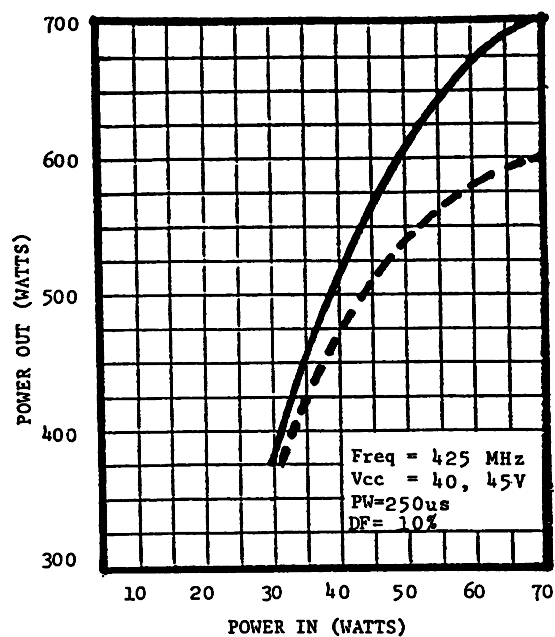
Note: Pulse Width = 250 μ Sec, Duty Cycle = 10%

This device is suitable for use under other pulse width/duty cycle conditions.

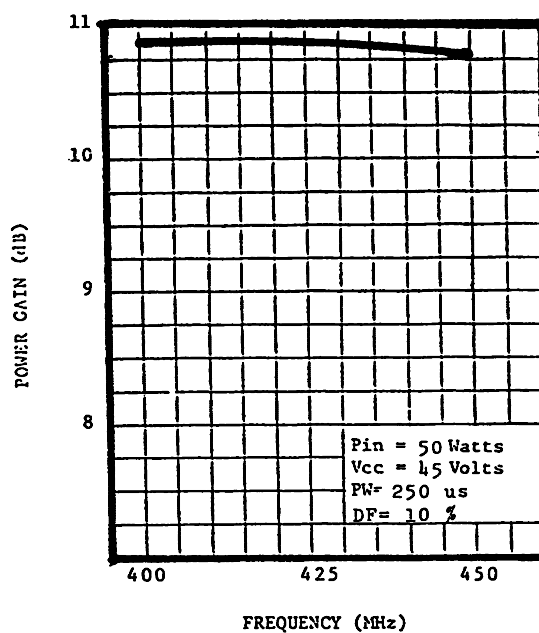
Please contact the factory for specific applications assistance.

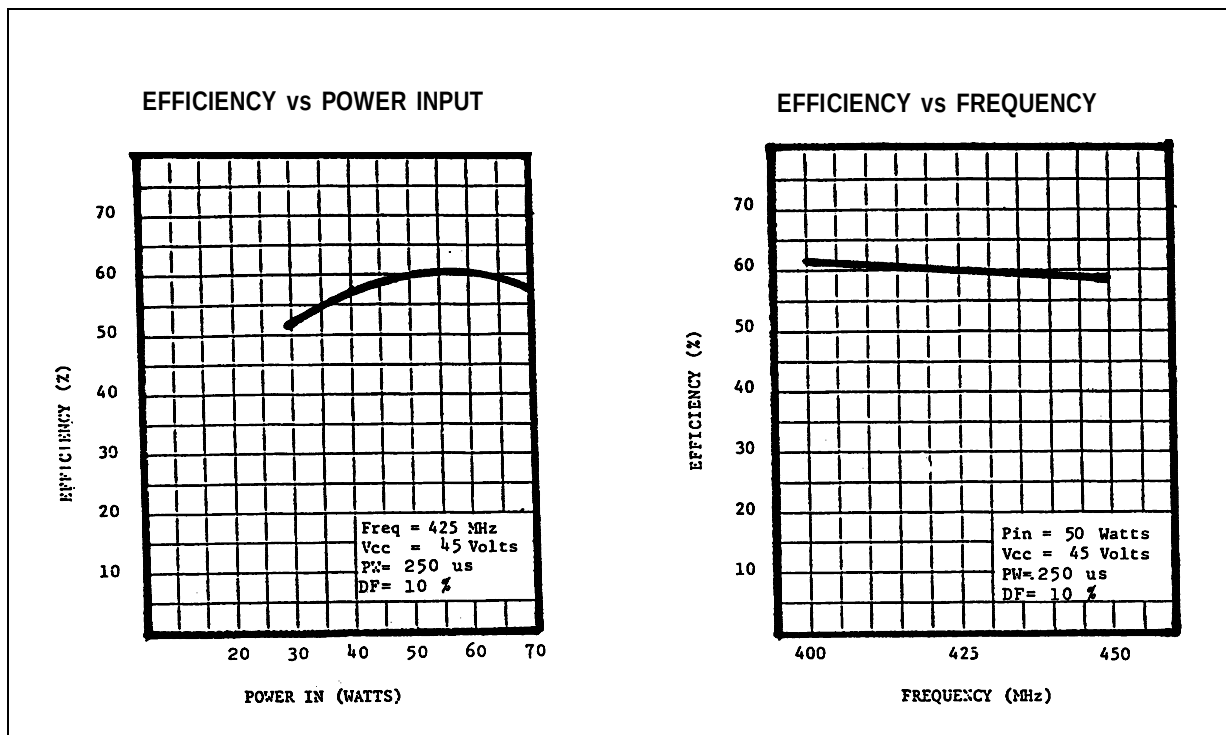
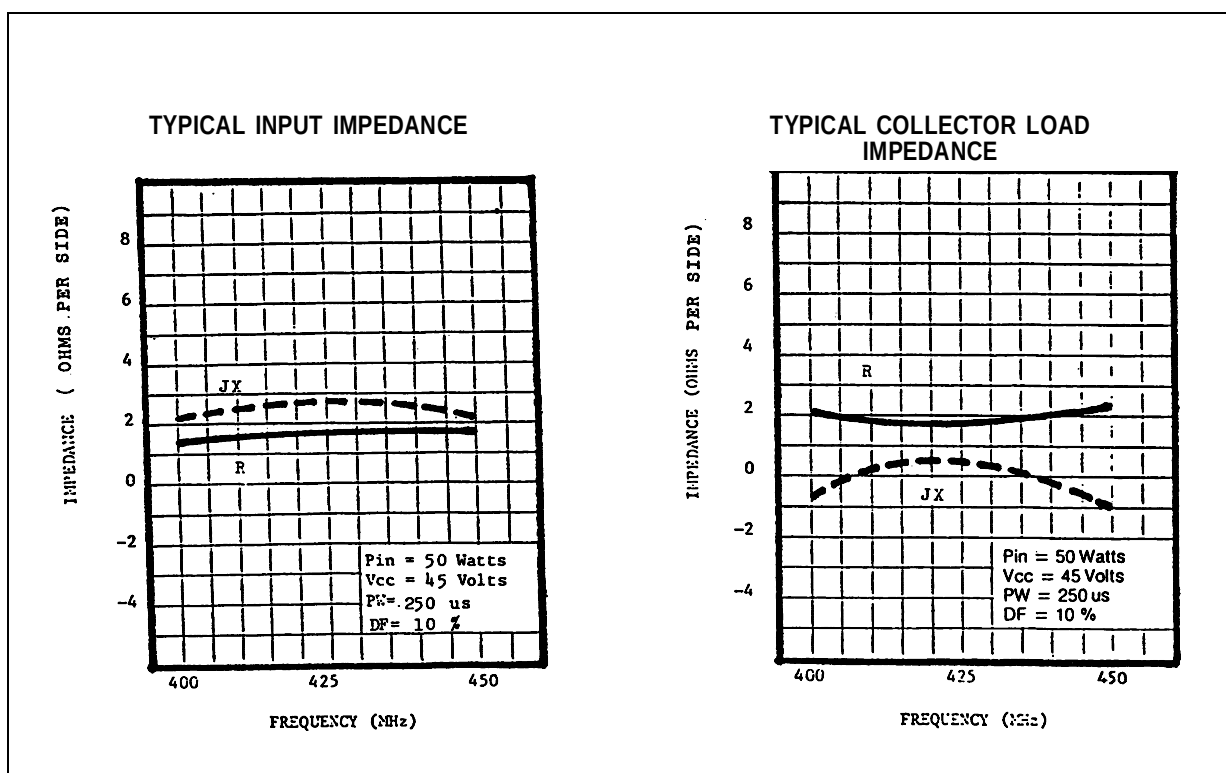
TYPICAL PERFORMANCE (P.W. = 250 μ S, D.C. = 10%)

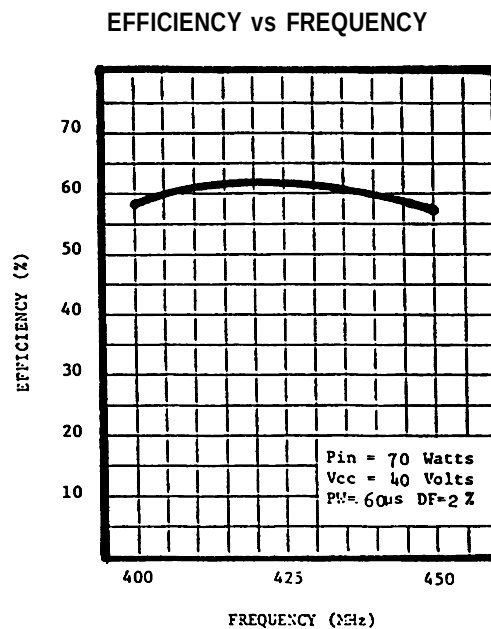
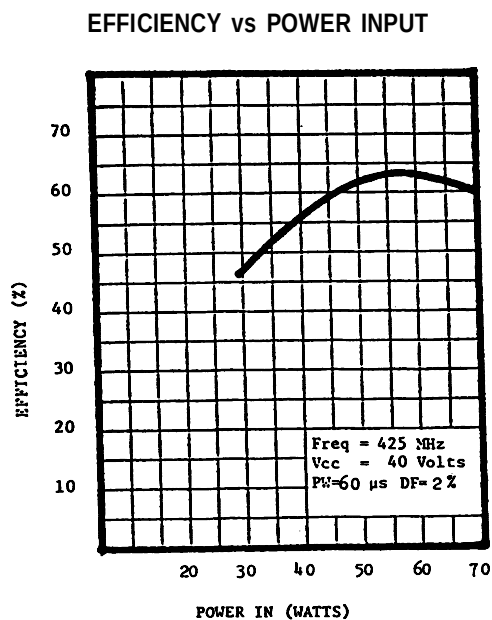
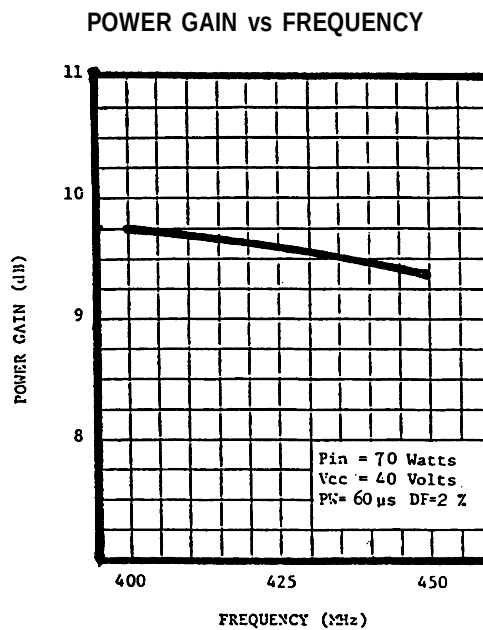
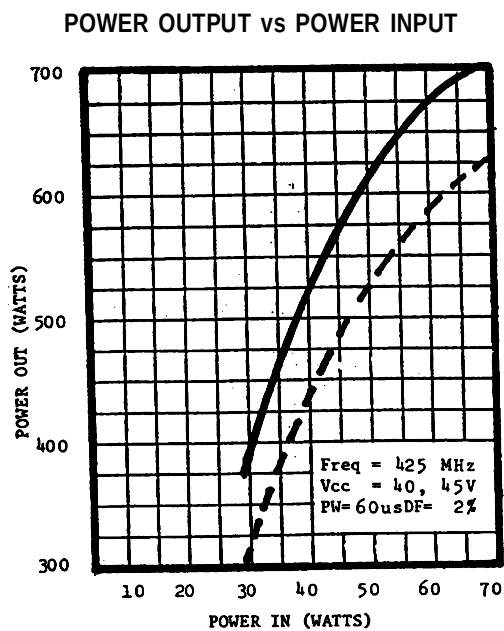
POWER OUTPUT vs POWER INPUT

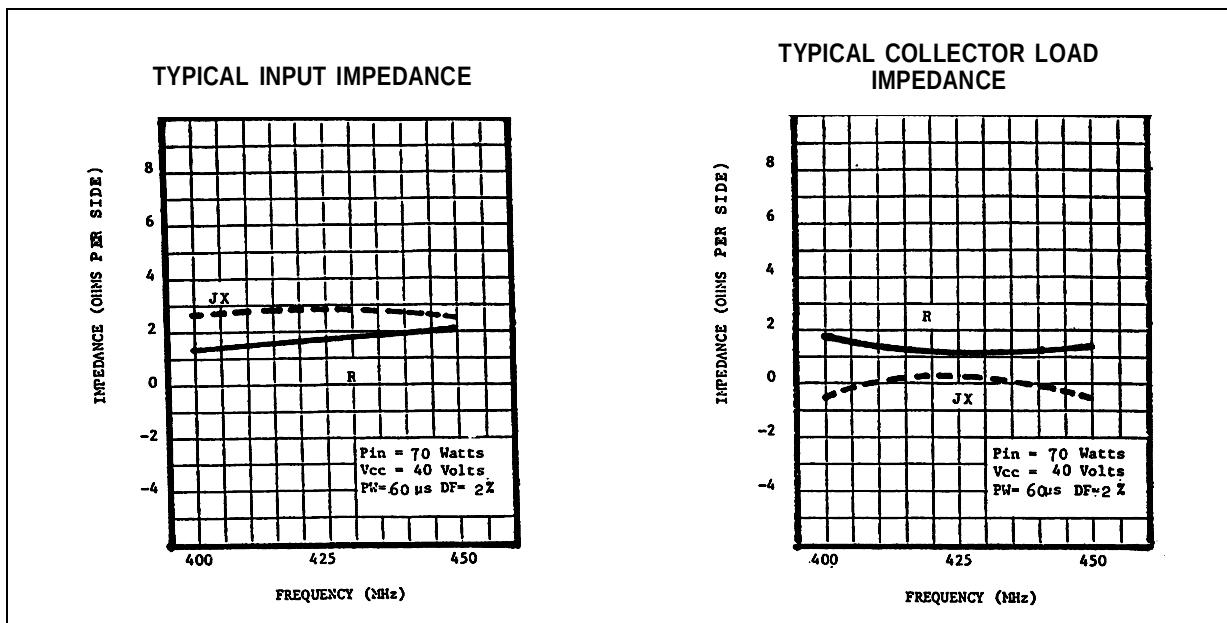


POWER GAIN vs FREQUENCY

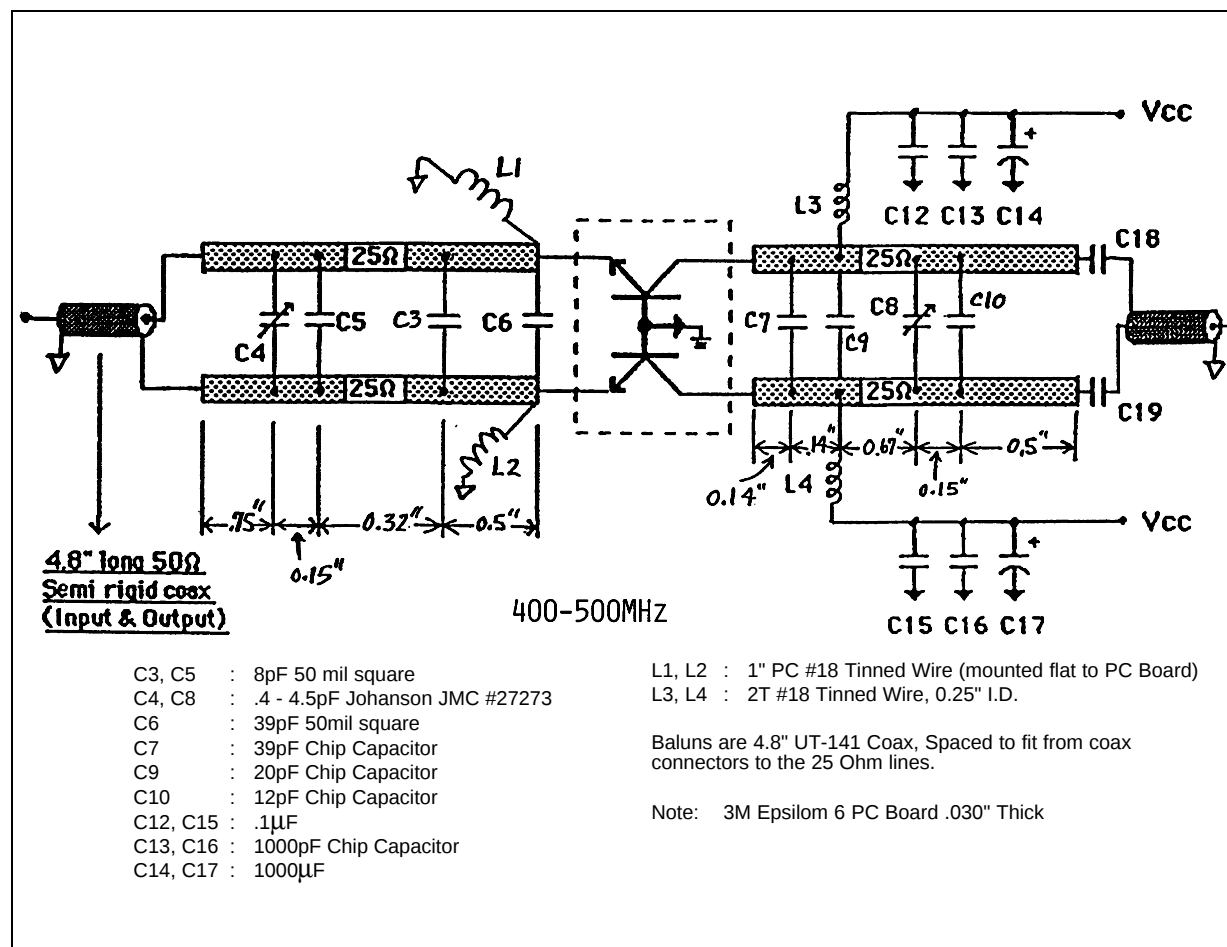


TYPICAL PERFORMANCE (P.W. = 250 μ S, D.C. = 10%)IMPEDANCE DATA (P.W. = 250 μ S, D.C. = 10%)

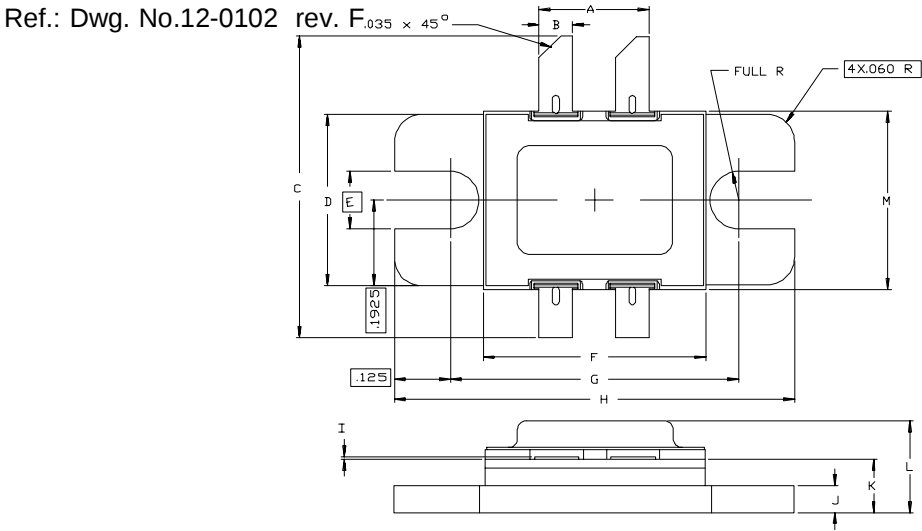
TYPICAL PERFORMANCE (P.W. = 60 μ S, D.C. = 2%)

IMPEDANCE DATA (P.W. = 60 μ S, D.C. = 2%)

TEST CIRCUIT



PACKAGE MECHANICAL DATA



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.240/6,10	.254/6,45	K	.115/2,92	.130/3,30
B	.070/1,78	.080/2,03	L	---	.230/5,84
C	.780/19,81	.820/20,83	M	.395/10,03	.407/10,34
D	.380/9,65	.390/9,91			
E	.130/3,30				
F	.495/12,57	.507/12,88			
G	.640/16,26	.655/16,64			
H	.890/22,61	.910/23,11			
I	.002/0,05	.006/0,15			
J	.058/1,47	.065/1,65			

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