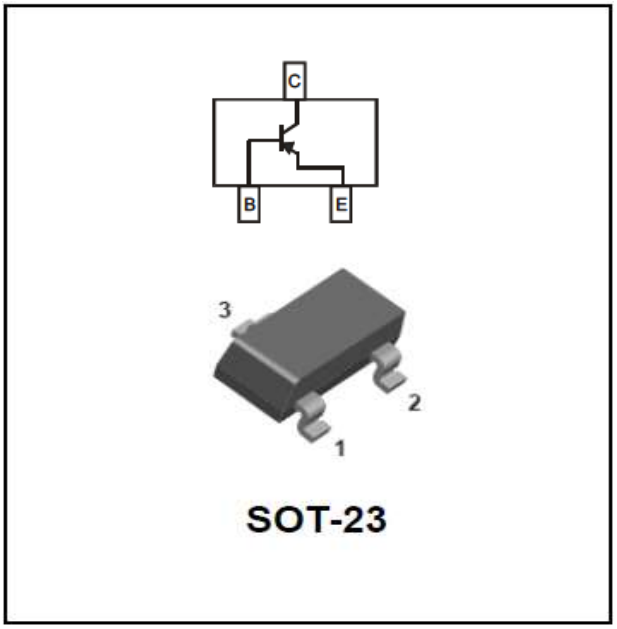
PNP General Purpose Amplifier



Features

- ●Epoxy meets UL-94 V-0 flammability rating
- ●Moisure Sensitivity Level 1
- ●Marking:2A

■Maximum Rating, (T_a=25℃ Unless otherwise specified)

Item	Symbol	Unit	Value
Collector-Emitter Voltage	V_{CEO}	V	-40
Collector-Base Voltage	V_{CBO}	V	-40
Emitter-Base Voltage	V_{EBO}	V	-5.0
Collector Current, Continuous	I_C	A	-0.2
Power Dissipation	P_D	mW	300
Operation Junction Temperature	T_J	℃	-55 to +150
Storage Temperature	T_{STG}	℃	-55 to +150

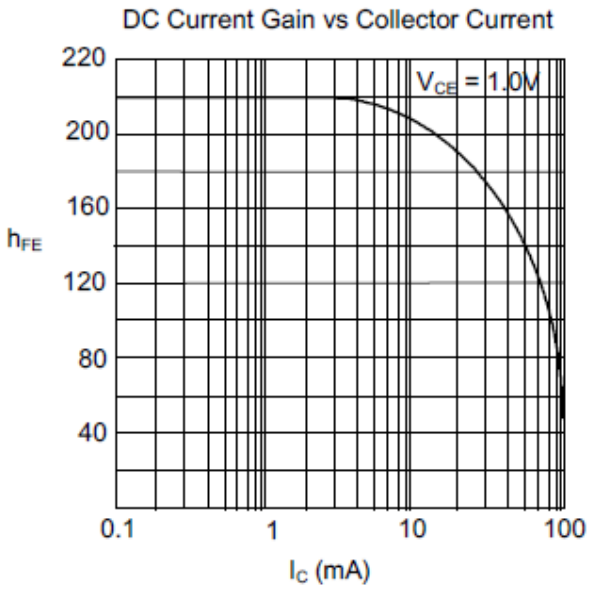
■Ordering Information (Example)

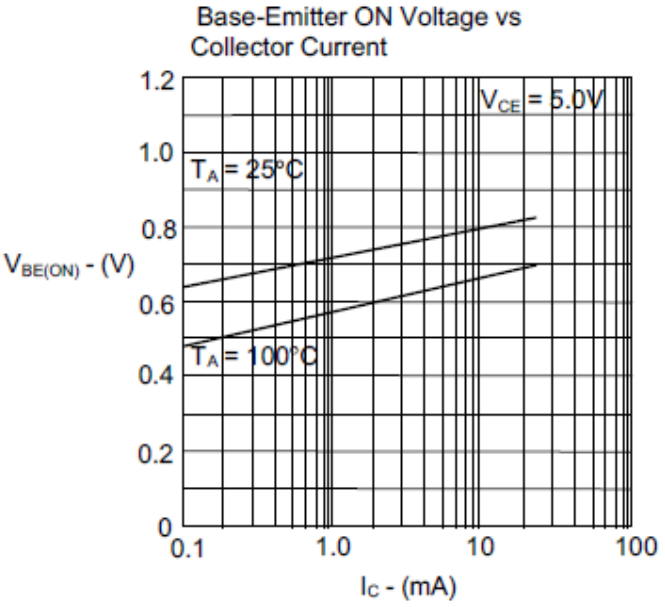
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT3906	F2	Approximate 0.008	3000	30000	120000	7” reel

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

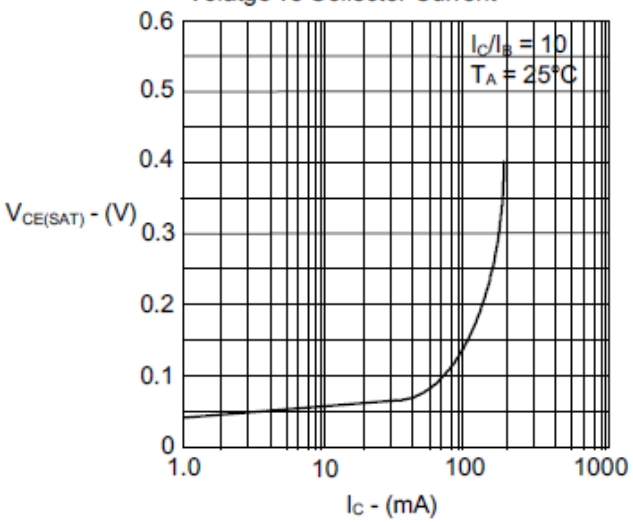
Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	Vdc	I_C=1.0mAdc, I_B=0	-40	
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	Vdc	I_C=10uAdc, I_E=0	-40	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	Vdc	I_E=10uAdc, I_C=0	-5.0	
Collector cut-off Current	I_{CBO}	uAdc	V_{CB}=-40Vdc, I_E=0		-0.1
Collector cut-off Current	I_{CEX}	nAdc	V_{CE}=-30Vdc, V_{BE}=-3.0Vdc		-50
Emitter cut-off Current	I_{EBO}	uAdc	V_{EB}=-5Vdc, I_C=0		-0.1
DC Current Gain	h_{FE}		I_C=-10mAdc, V_{CE}=-1.0Vdc	100	300
			I_C=-50mAdc, V_{CE}=-1.0Vdc	60	
			I_C=-100mAdc, V_{CE}=-1.0Vdc	30	
Collector-Emitter Saturation Voltage	VCE(sat)	Vdc	I_C=-10mAdc, I_B=-1.0mAdc		-0.25
			I_C=-50mAdc, I_B=-5.0mAdc		-0.4
Base-Emitter Saturation Voltage	VBE(sat)	Vdc	I_C=-10mAdc, I_B=-1.0mAdc	-0.65	-0.85
			I_C=-50mAdc, I_B=-5.0mAdc		-0.95
Output Capacitance	Cobo	pF	V_{CB}=-5.0Vdc, f=1.0MHz, I_E=0		4.5
Input Capacitance	Cibo	pF	V_{EB}=-0.5Vdc, f=1.0MHz, I_C=0		10
Current Gain-Bandwidth Product	f_T	MHZ	I_C=-10mAdc, V_{CE}=-20Vdc, f=100MHz	250	
Noise Figure	NF	dB	V_{CE}=-5.0V, f=1.0kHz, I_C=-100uA, R_S=1.0K		4.0

■ Characteristics(Typical)

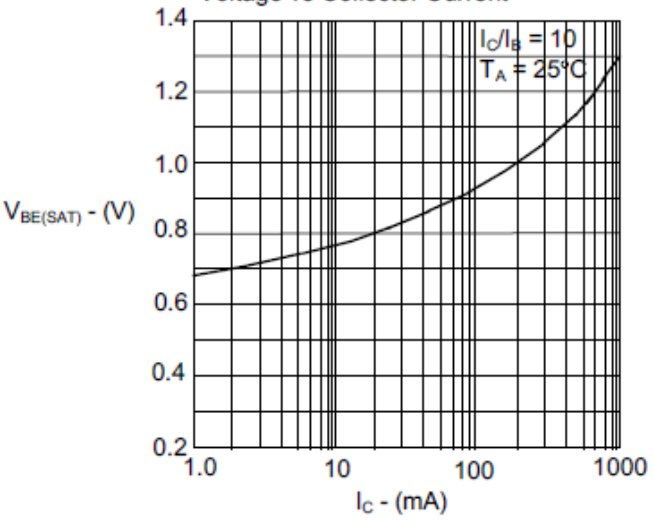




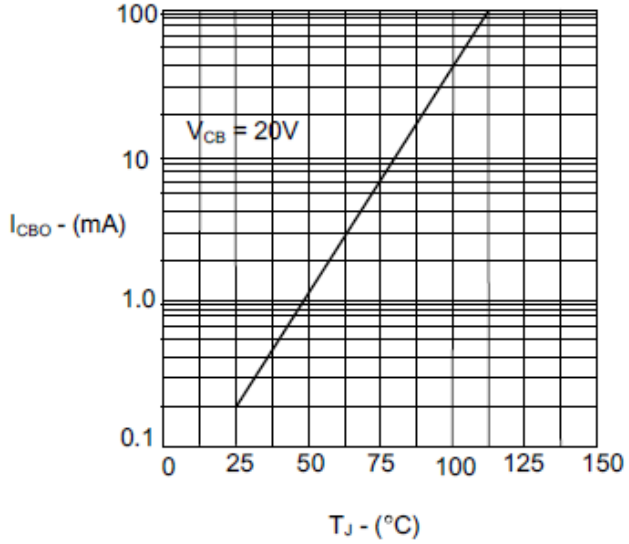
Collector-Emitter Saturation Volatge vs Collector Current



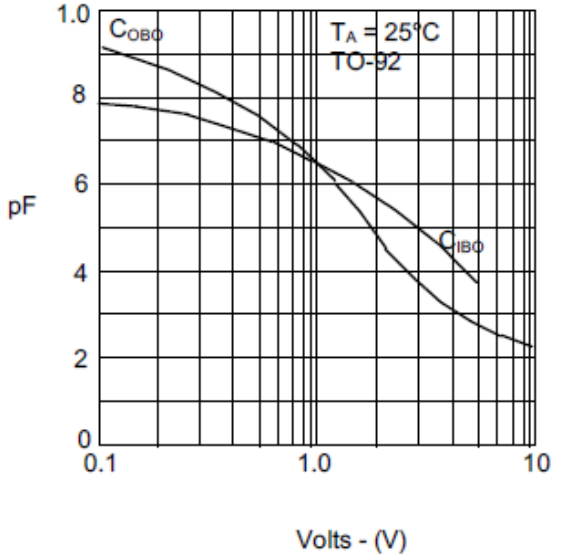
Base-Emitter Saturation Voltage vs Collector Current



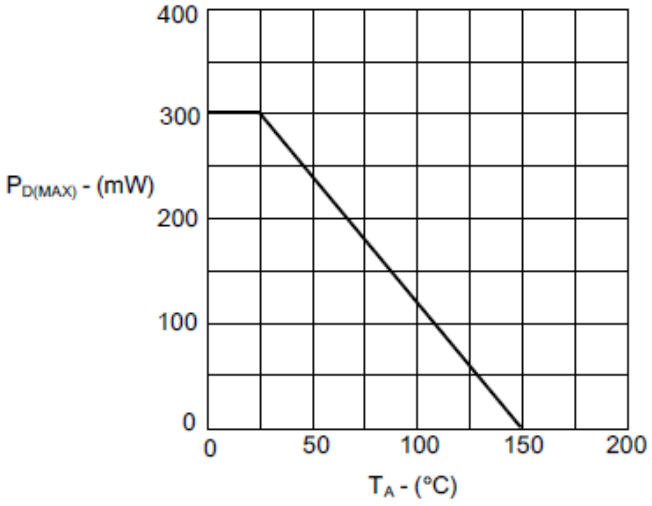
Collector-Base Diode Reverse Current vs Temperature



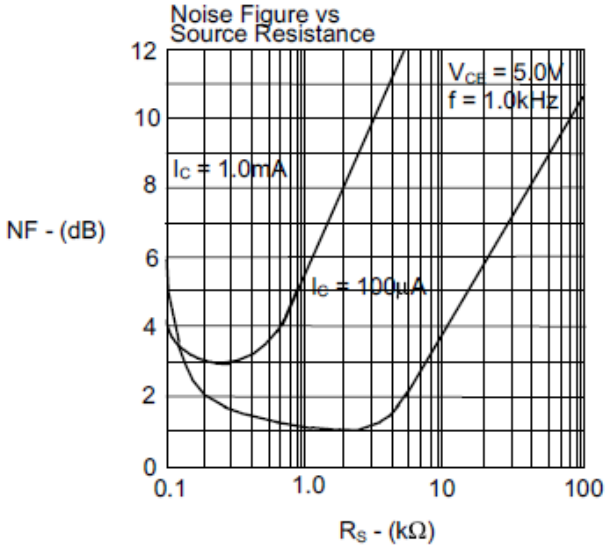
Common Base Open Circuit Input and Output Capacitance vs Reverse Bias Voltage



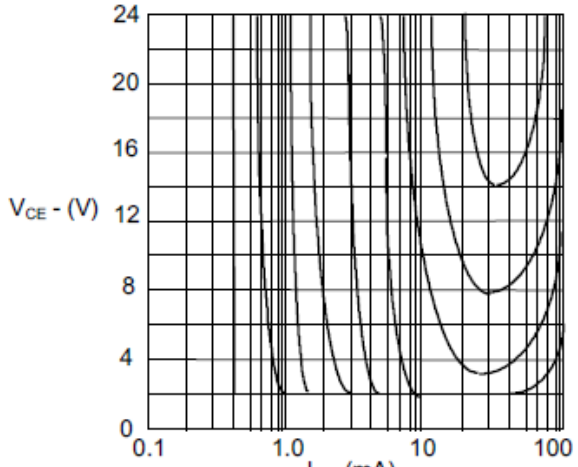
Maximum Power Dissipation vs Ambient Temperature



Noise Figure vs Source Resistance

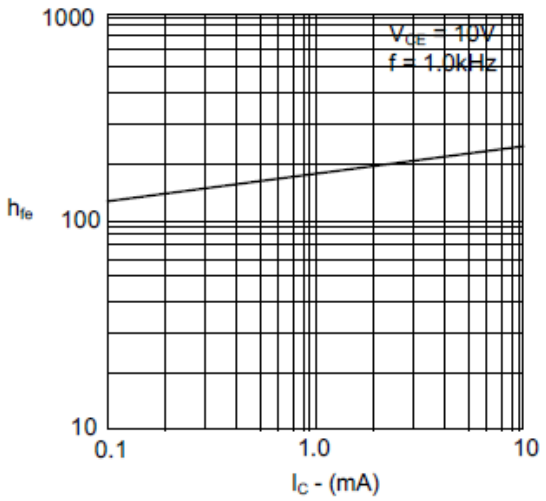


Contours of Constant Gain Bandwidth Product (f_T)

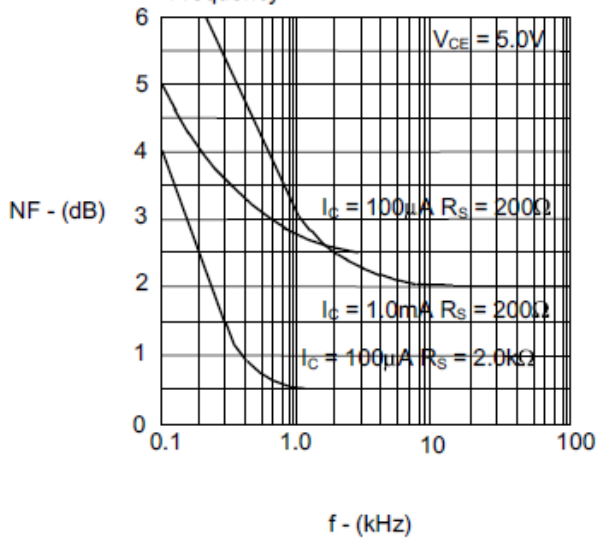


*100MHz increments from 100 to 700, 750 and 800MHz

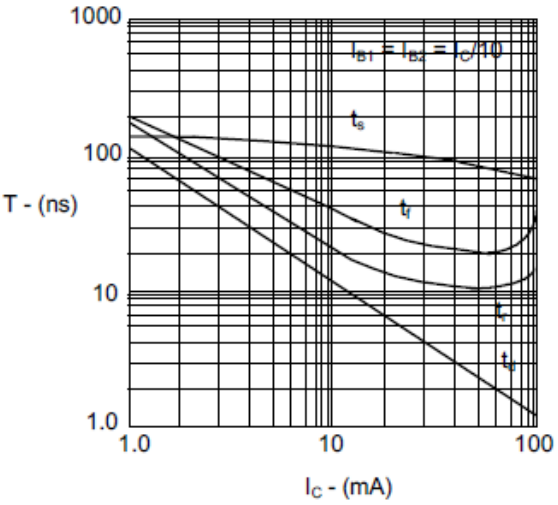
Current Gain



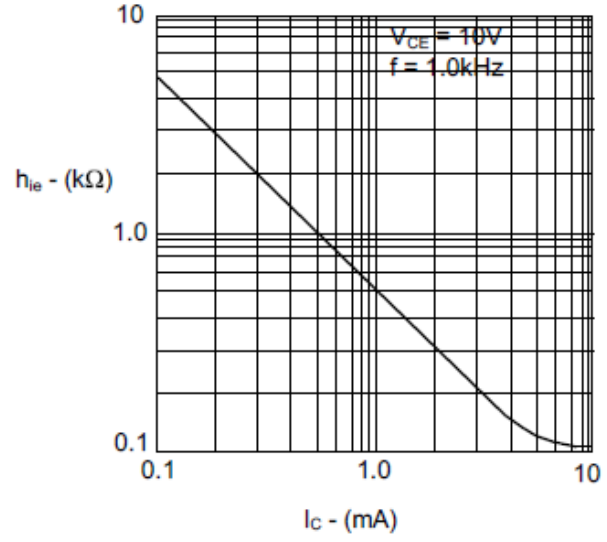
Noise Figure vs Frequency



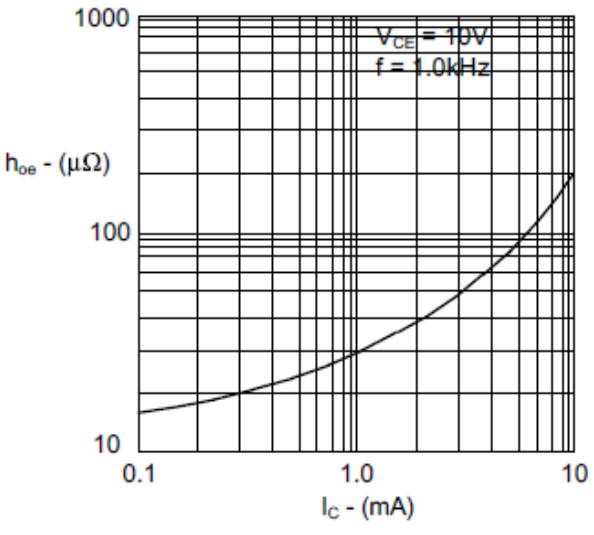
Switching Times vs Collector Current



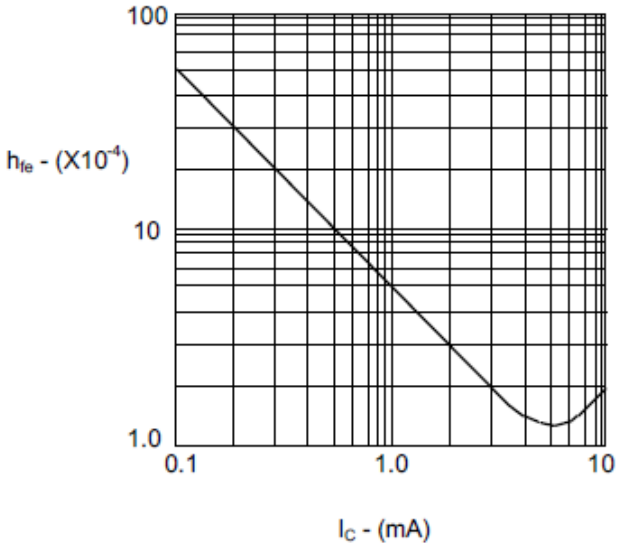
Input Impedance



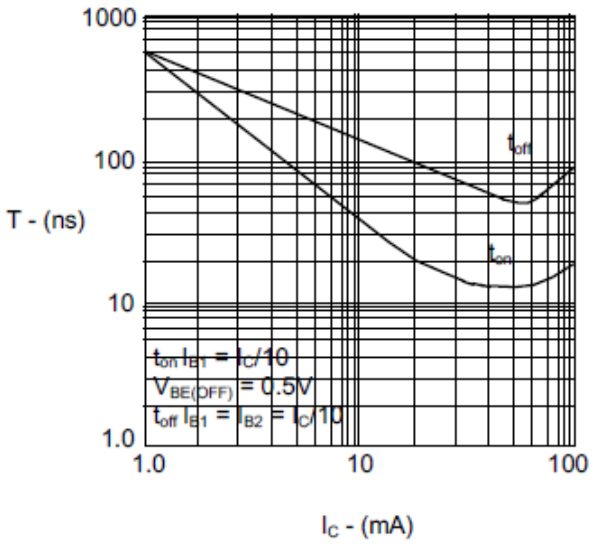
Output Admittance



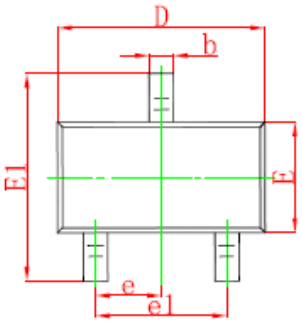
Voltage Feedback Ratio

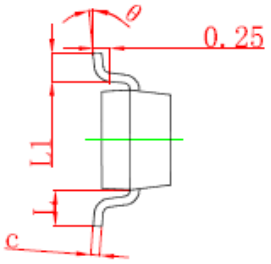


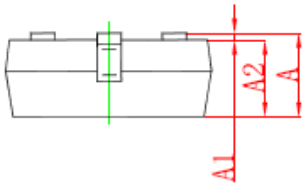
Turn On and Turn Off Times vs Collector Current



■SOT-23 Package Outline Dimensions

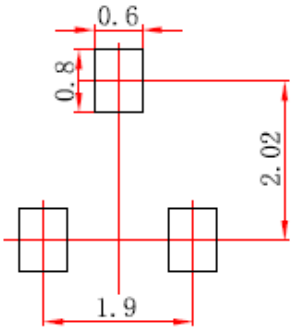






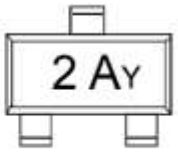
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

■SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:In millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

■Marking code



2A = Product Type Marking Code
Y=Date Code Marking

Date code Key（2 years a cycle）

Year	2011											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	J	O	L	C	K	B	P	D	M	E	G	F

Year	2012											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	W	N	Y	T	R	H	A	I	U	X	Z	S

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