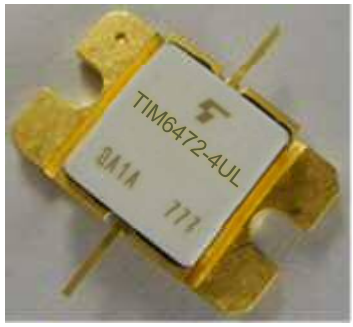
MICROWAVE POWER GaAs FET
TIM6472-4UL

FEATURES

- **BROAD BAND INTERNALLY MATCHED FET**
- **HIGH POWER**
  P1dB= 36.5dBm at 6.4GHz to 7.2GHz
- **HIGH GAIN**
  G1dB= 9.5dB at 6.4GHz to 7.2GHz
- **LOW INTERMODULATION DISTORTION**
  IM3(MIN.) = -44dBc at Pout= 25.5dBm (Single Carrier Level)
- **HERMETICALLY SEALED PACKAGE**



RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P1dB	VDS= 10V IDSset= 0.9A f= 6.4 to 7.2GHz	dBm	35.5	36.5	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	8.5	9.5	—
Drain Current	IDS1		A	—	1.1	1.3
Gain Flatness	ΔG		dB	—	—	±0.6
Power Added Efficiency	ηadd		%	—	36	—
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po= 25.5dBm, Δf= 5MHz (Single Carrier Level)	dBc	-44	-47	—
Drain Current	IDS2		A	—	1.1	1.3
Channel Temperature Rise	ΔTch	(VDS × IDS + Pin − P1dB) × Rth(c-c)	°C	—	—	80

Recommended Gate Resistance(Rg): 150 Ω

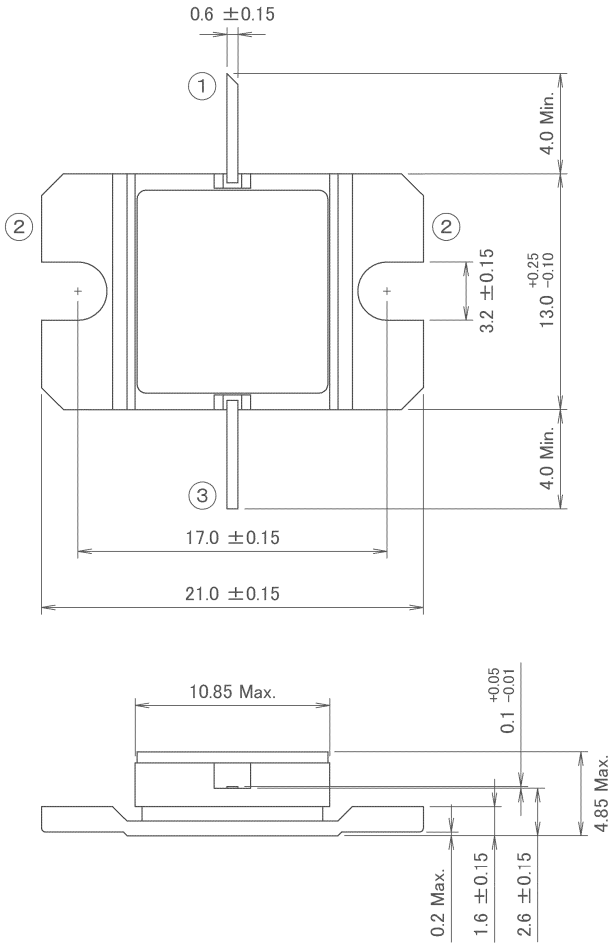
ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 1.5A	S	—	0.9	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 15mA	V	-1.0	-2.5	-4.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	2.6	—
Gate-Source Breakdown Voltage	VGSO	IGS= -50μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	4.5	6.0

ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	A	3.5
Total Power Dissipation (Tc= 25°C)	PT	W	25
Channel Temperature	Tch	°C	175
Storage Temperature	Tstg	°C	-65 to +175

PACKAGE OUTLINE (2-11D1B)



Unit in mm

① Gate
② Source
③ Drain

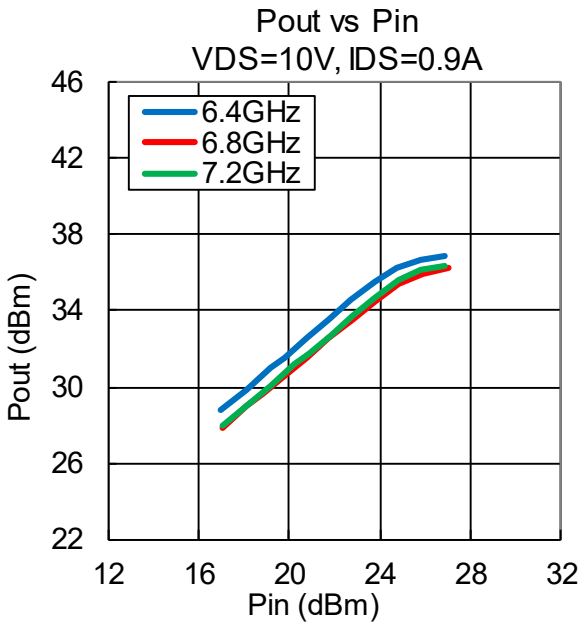
HANDLING PRECAUTIONS FOR PACKAGE MODEL

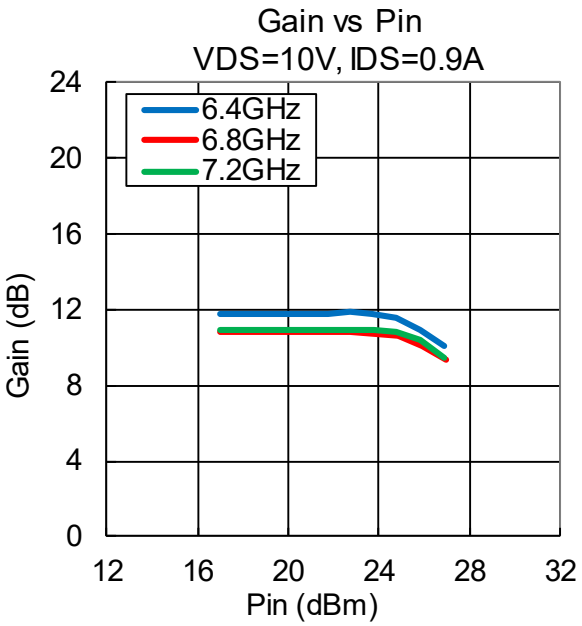
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C or 3 seconds at 350°C.

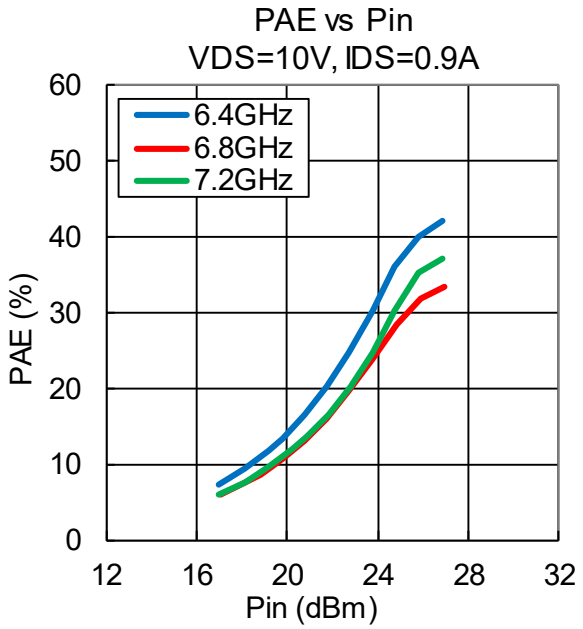
TYPICAL RF PERFORMANCE

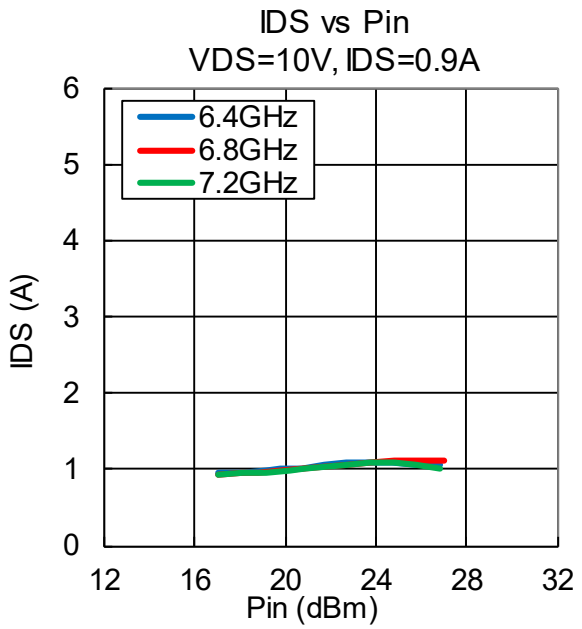
·Pout , Gain , PAE , IDS vs. Pin

VDS= 10 V, IDSset= 0.9 A, f= 6.4, 6.8, 7.2 GHz, Ta= +25 ℃



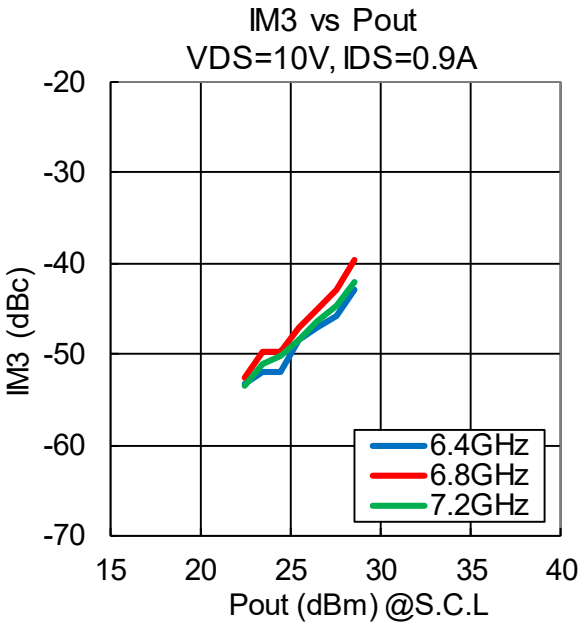


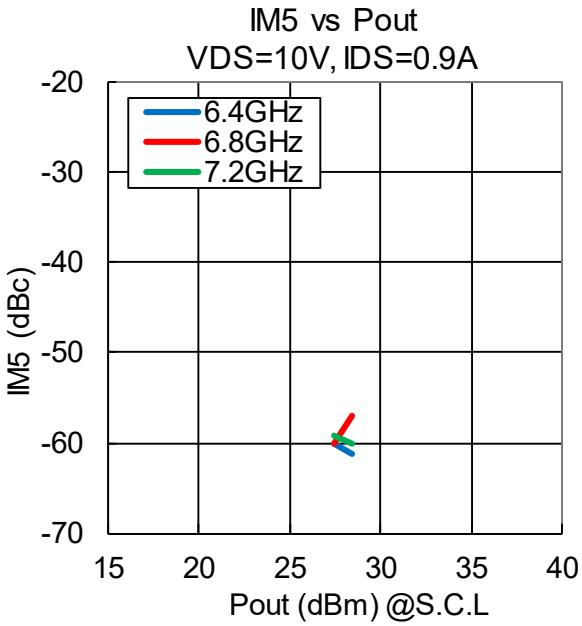




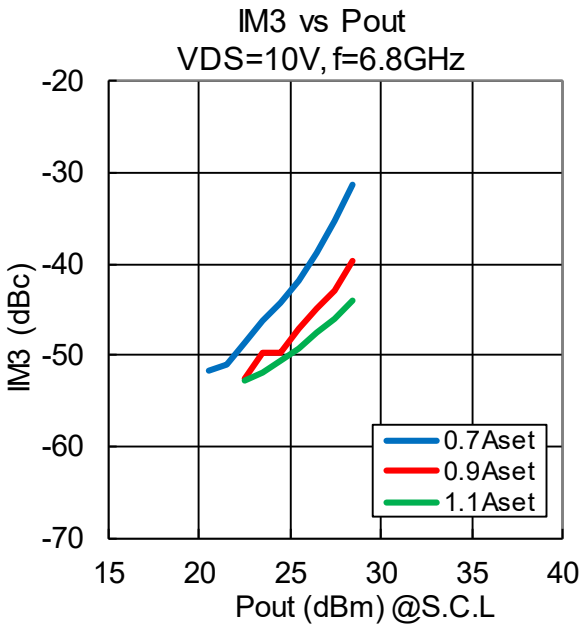
·IM3, IM5 vs. Pout

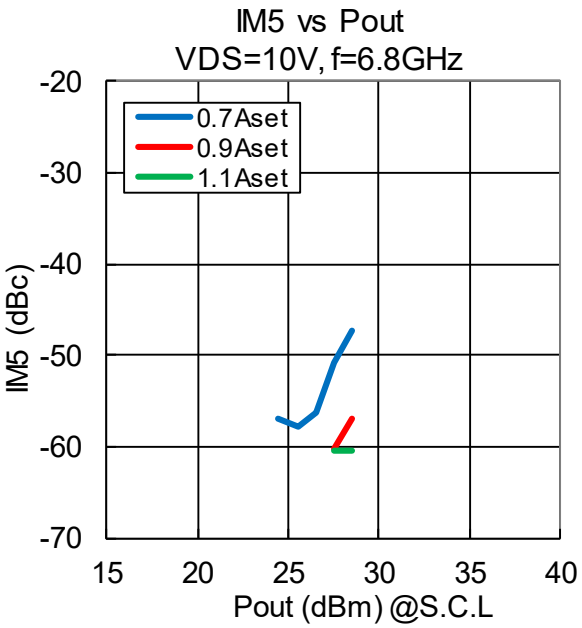
VDS= 10 V, IDSset= 0.9 A, f= 6.4, 6.8, 7.2 GHz, Δf= 5 MHz , Ta= +25 ℃





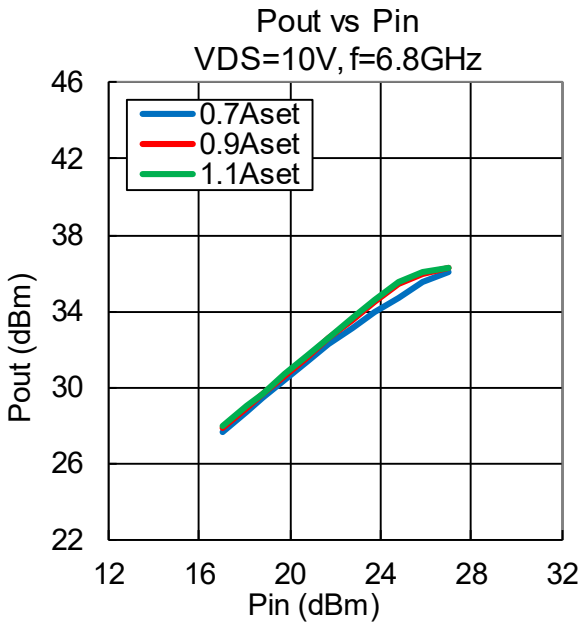
VDS= 10 V, IDSset= 0.7, 0.9, 1.1 A, f= 6.8 GHz, Δf= 5 MHz , Ta= +25 ℃

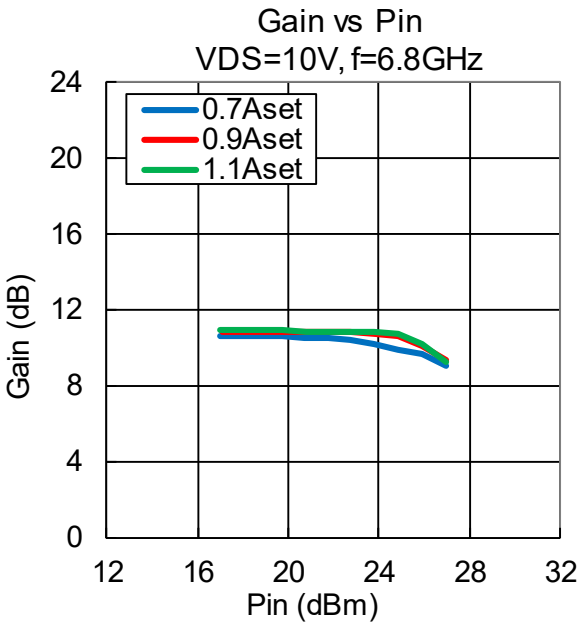


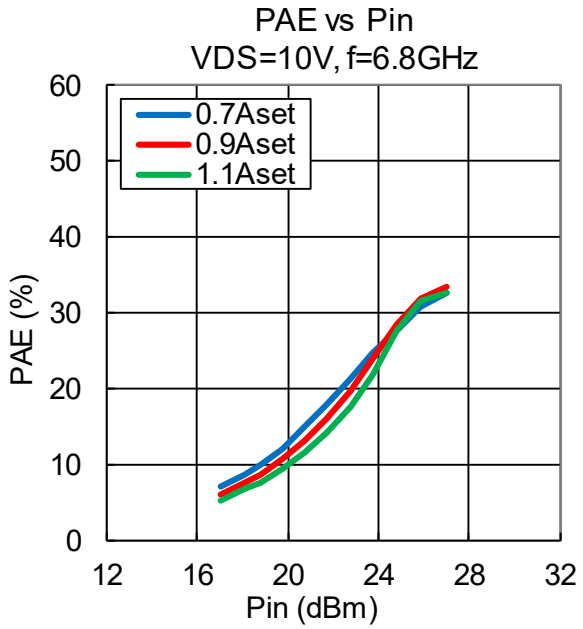


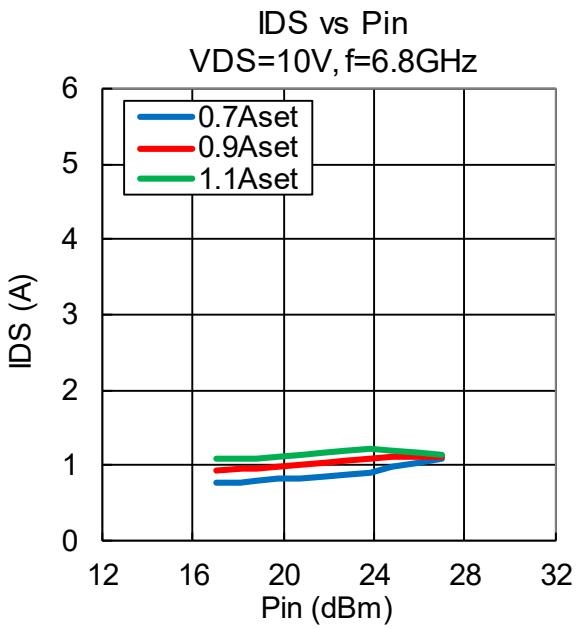
·Pout , Gain , PAE , IDS vs. Pin vs. IDSset

VDS= 10 V, IDSset= 0.7, 0.9, 1.1 A, f= 6.8 GHz, Ta= +25 ℃



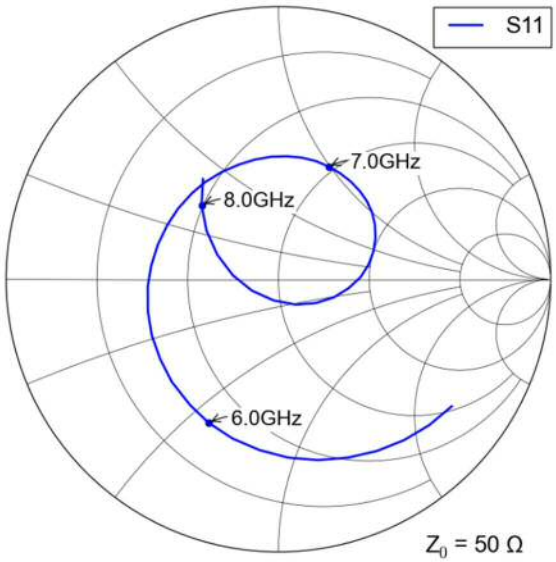


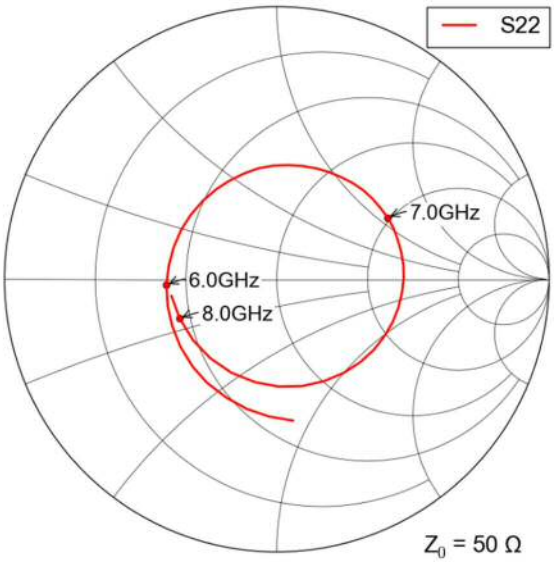


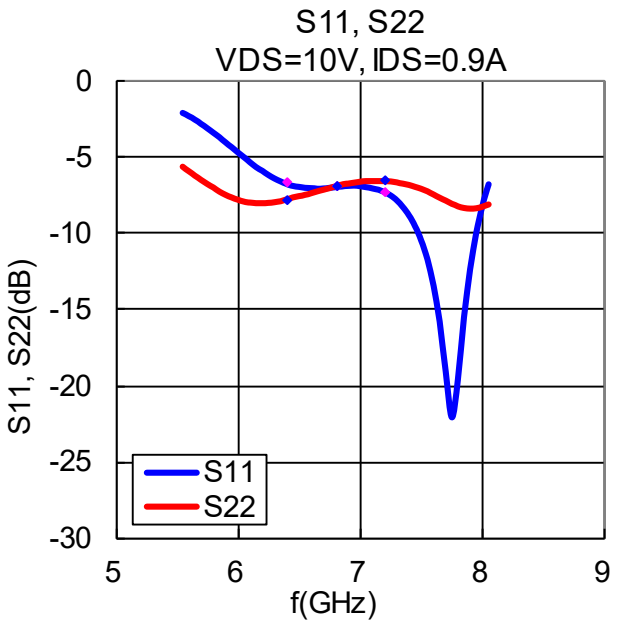


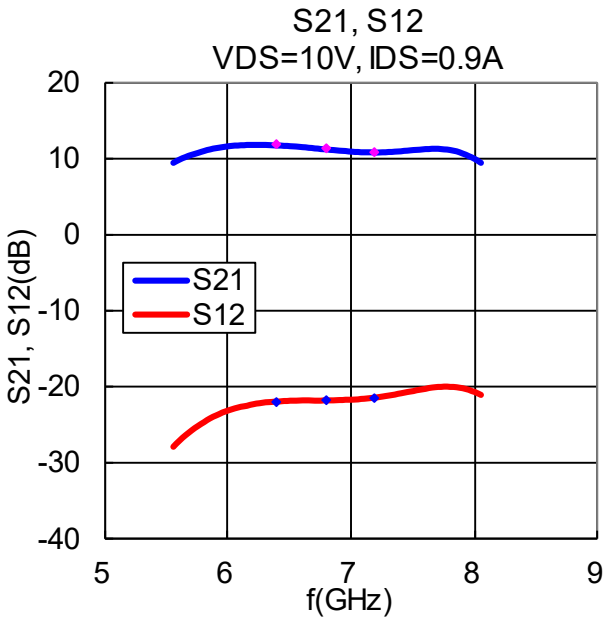
·S-Parameters

VDS= 10 V, IDSset= 0.9 A, f= 5.55 to 8.05 GHz, Ta= +25 ℃









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