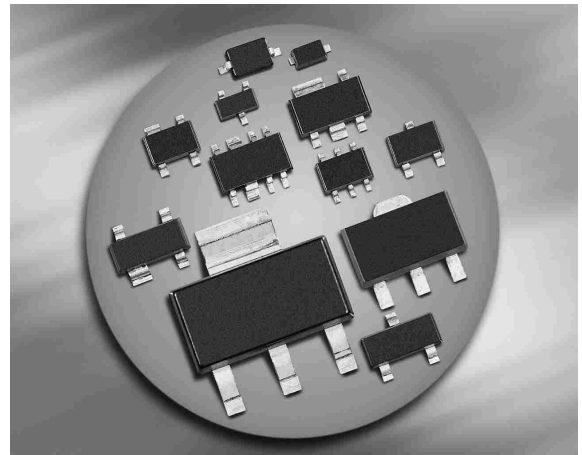
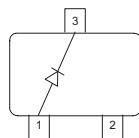
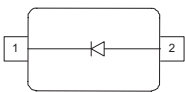


**Silicon PIN Diode**

- Current-controlled RF resistor for switching and attenuating applications
- Frequency range 1 MHz ... 2 GHz
- Especially useful as antenna switch in TV-sat tuners
- Very low harmonics
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101


**BA595**
**BA885**
**BA895**
**BA895-02V**


Type	Package	Configuration	$L_S$ (nH)	Marking
BA595	SOD323	single	1.8	white R
BA885	SOT23	single	1.8	PA
BA895*	SCD80	single	0.6	RA
BA895-02V	SC79	single	0.6	1

\* Not for new design

**Maximum Ratings** at  $T_A = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	50	V
Forward current	$I_F$	50	mA
Junction temperature	$T_J$	150	°C
Operating temperature range	$T_{Op}$	-55 ... 125	
Storage temperature	$T_{Stg}$	-55 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup> BA595, BA885 BA895, -02V	$R_{thJS}$	$\leq 370$ $\leq 95$	K/W

<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note AN077 (Thermal Resistance Calculation)

**Electrical Characteristics at  $T_A = 25\text{ °C}$ , unless otherwise specified**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

**DC Characteristics**

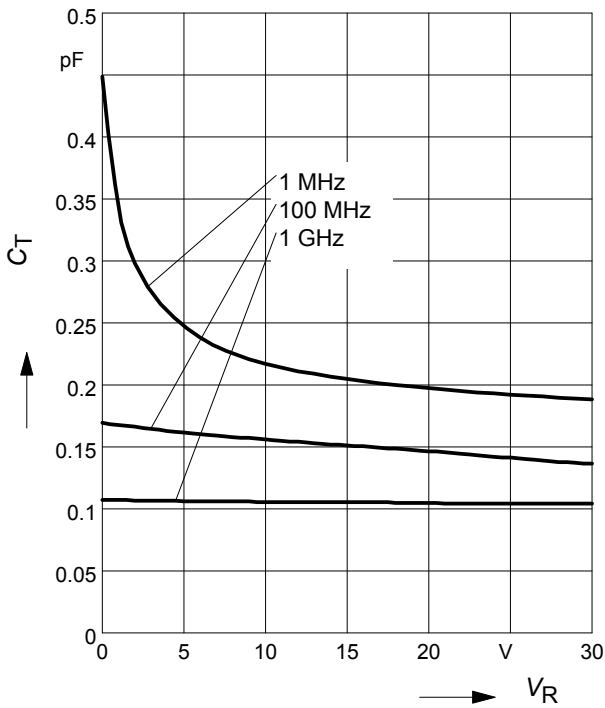
Reverse current $V_R = 30\text{ V}$	$I_R$	-	-	20	nA
Forward voltage $I_F = 50\text{ mA}$	$V_F$	-	-	1.1	V

**AC Characteristics**

Diode capacitance $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 10\text{ V}, f = 1\text{ MHz}$	$C_T$	- -	0.26 0.22	0.4 0.6	pF
Reverse parallel resistance $V_R = 1\text{ V}, f = 100\text{ MHz}$ $V_R = 0\text{ V}, f = 1\text{ GHz}$	$R_P$	- -	50 10	- -	k $\Omega$
Forward resistance $I_F = 1.5\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$	$r_f$	- -	22 4.5	40 7	$\Omega$
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$ , measured at $I_R = 3\text{ mA}$ , $R_L = 100\ \Omega$	$\tau_{rr}$	-	1600	-	ns
I-region width	$W_I$	-	130	-	$\mu\text{m}$

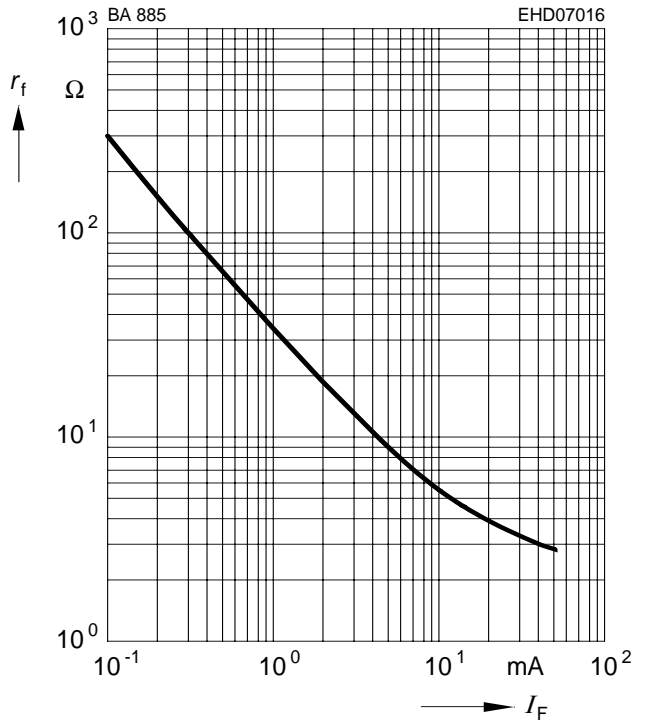
**Diode capacitance  $C_T = f(V_R)$**

$f =$  Parameter



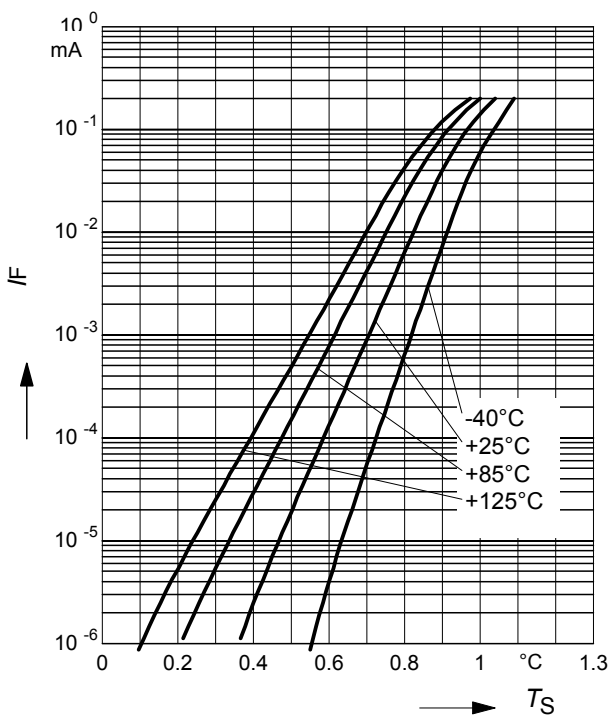
**Forward resistance  $r_f = f(I_F)$**

$f =$  Parameter



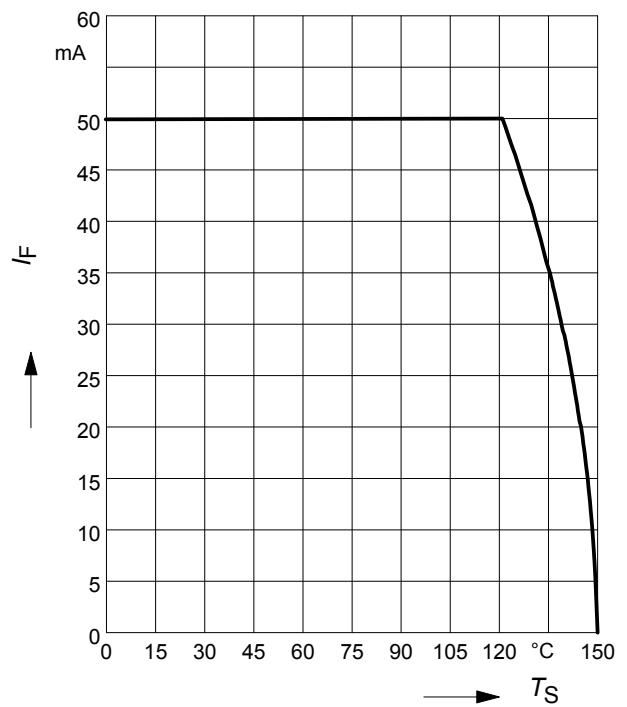
**Forward current  $I_F = f(V_F)$**

$T_A =$  Parameter



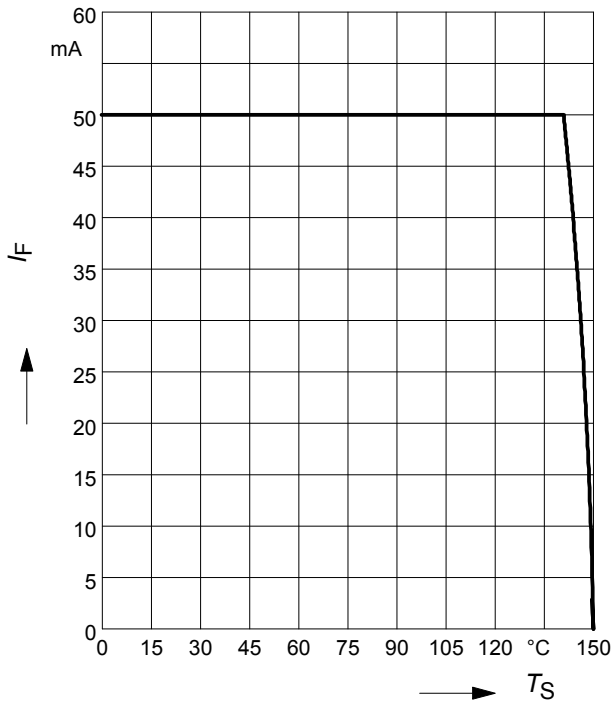
**Forward current  $I_F = f(T_S)$**

BA595



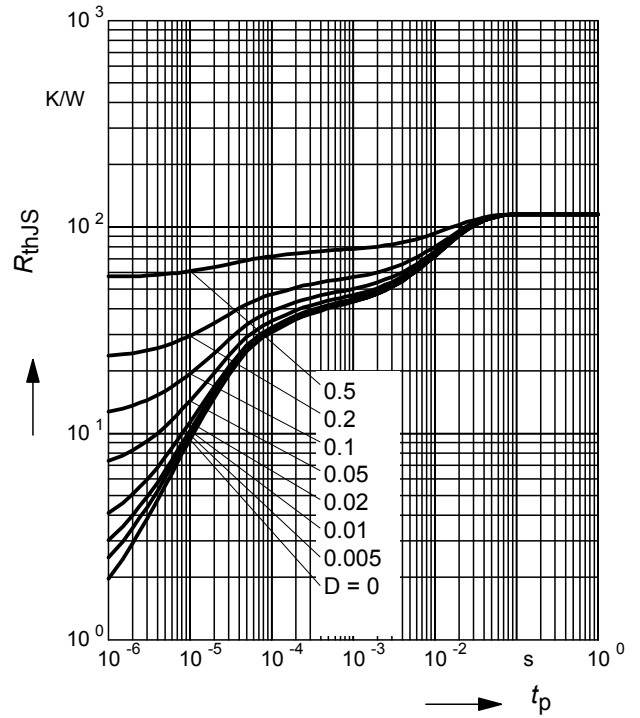
**Forward current  $I_F = f(T_S)$**

BA895, -02V



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

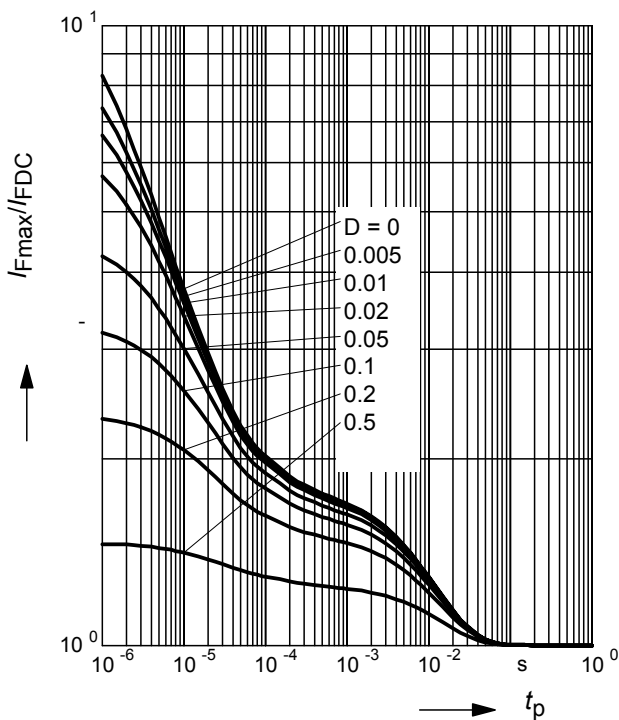
BA595



**Permissible Pulse Load**

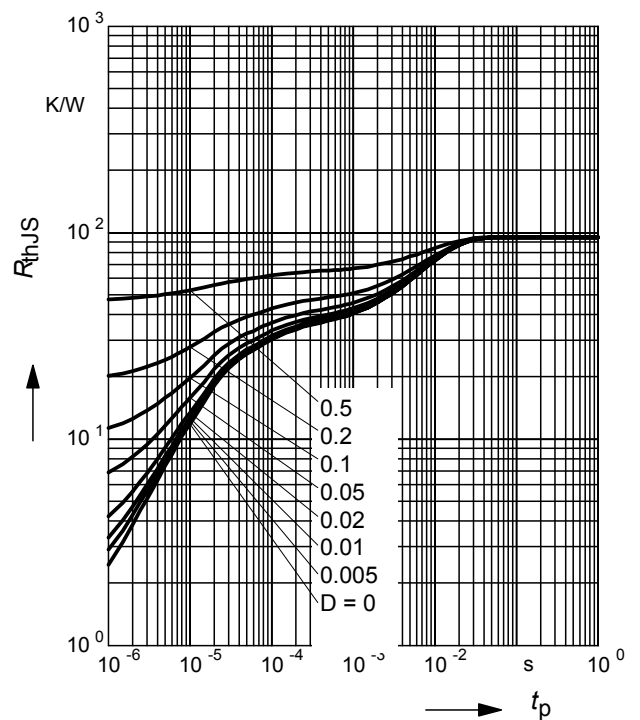
$I_{Fmax} / I_{FDC} = f(t_p)$

BA595



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

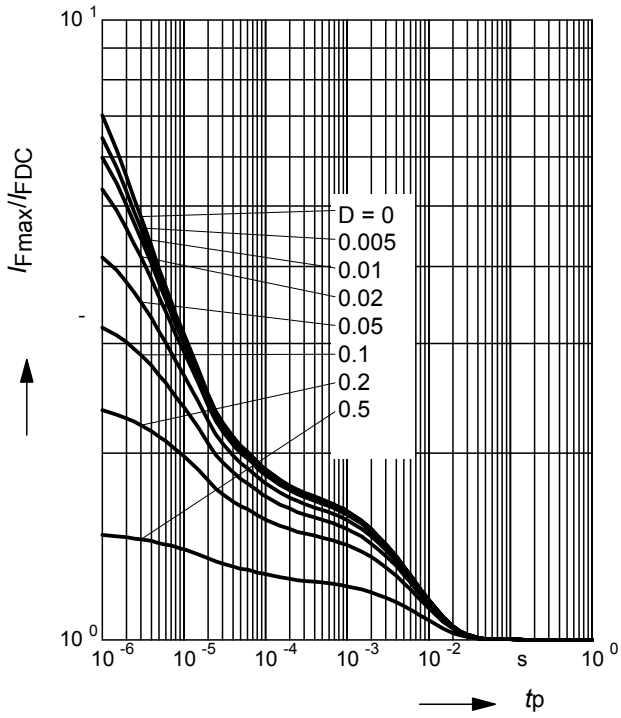
BA895, -02V



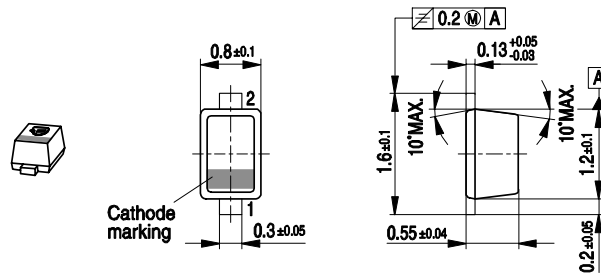
**Permissible Pulse Load**

$$I_{Fmax} / I_{FDC} = f(t_p)$$

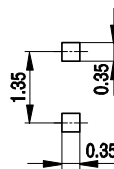
BA895, -02V



### Package Outline



### Foot Print



### Marking Layout (Example)



### Standard Packing

- Reel ø180 mm = 3.000 Pieces/Reel
- Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
- Reel ø330 mm = 10.000 Pieces/Reel



Package Outline



Foot Print

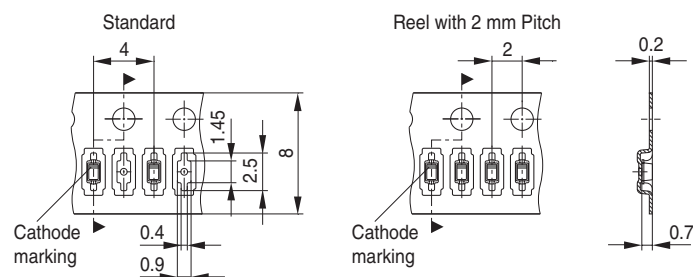


Marking Layout (Example)



Standard Packing

Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 180 mm = 8.000 Pieces/Reel (2 mm Pitch)  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



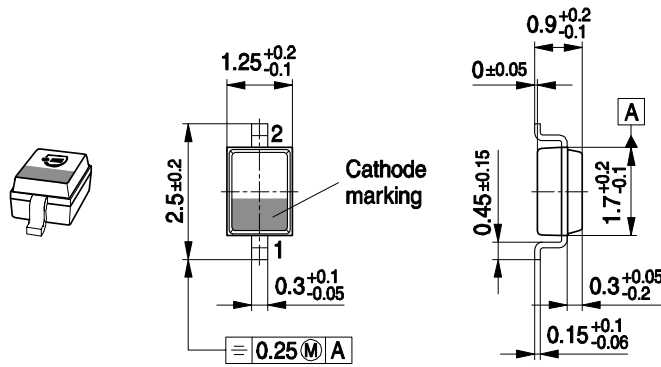
Date Code marking for discrete packages with one digit (SCD80, SC79, SC75<sup>1)</sup>) CES-Code

Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	j	y	J	Y
10	k	z	K	Z	k	z	K	Z	k	z	K	Z
11	l	2	L	4	l	2	L	4	l	2	L	4
12	n	3	N	5	n	3	N	5	n	3	N	5

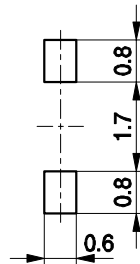
1) New Marking Layout for SC75, implemented at October 2005.



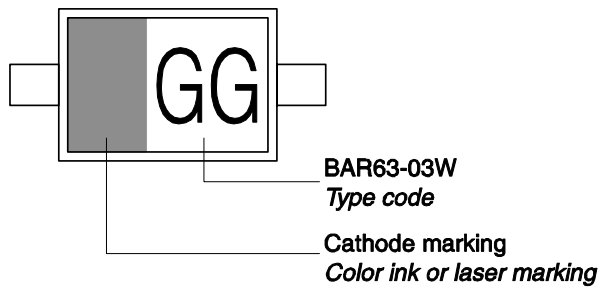
Package Outline



Foot Print

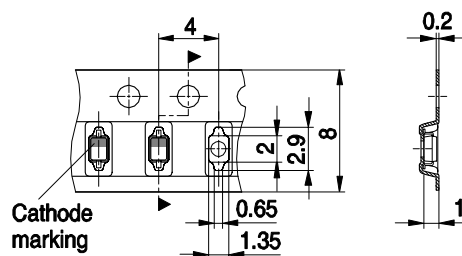


Marking Layout (Example)

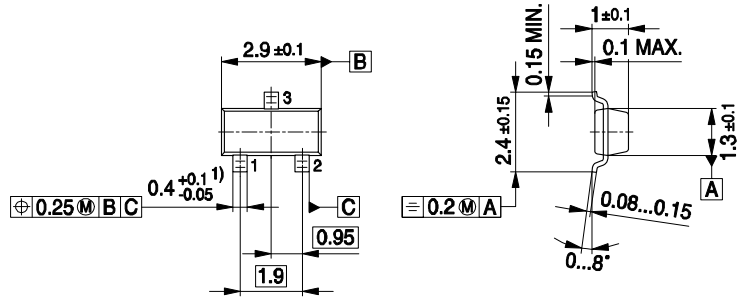
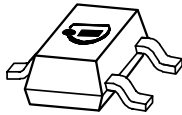


Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel  
 Reel ø330 mm = 10.000 Pieces/Reel



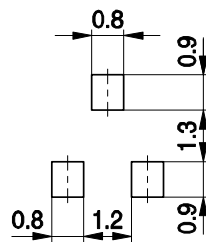
Package Outline



1) Lead width can be 0.6 max. in dambar area

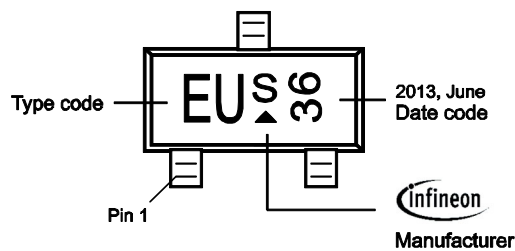
SOT23-PO V08

Foot Print



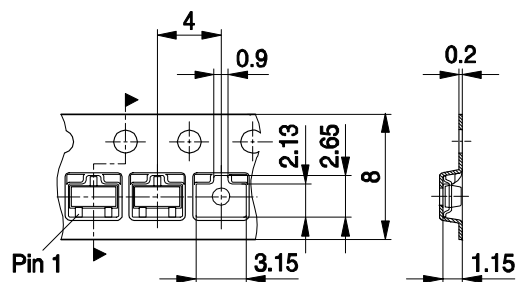
SOT23-FPR V08

Marking Layout



Standard Packing

Reel o 180 mm: 3.000 Pieces / Reel  
 Reel o 330 mm = 10.000 Pieces / Reel



SOT23-TP V02

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