



SAW Components

SAW IF filter

IF filters for intercarrier applications

Series/type:	K 7286 M
Ordering code:	B39380-K7286-M100
Date:	May 25, 2007
Version:	2.0



SAW Components

K 7286 M

SAW IF filter

38.00 MHz

Data sheet

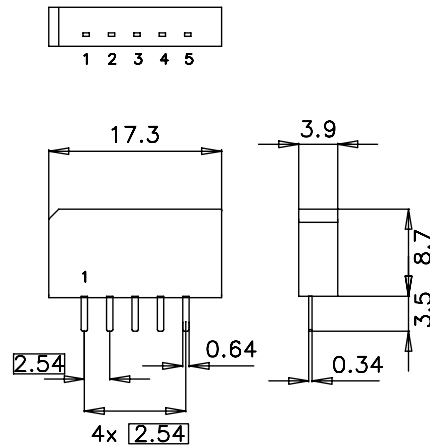
Application

- Standard: B/G, D/K, M/N
- TV IF filter switchable from M/N mode to B/G, D/K mode
- M/N mode with Nyquist slope and sound shelf at 33.50 MHz
- Customized group delay predistortion
- B/G, D/K mode with Nyquist slope and broad sound shelf for sound carriers at 31.50 MHz and 32.50 MHz
- Reduced group delay predistortion as compared with standard B/G half



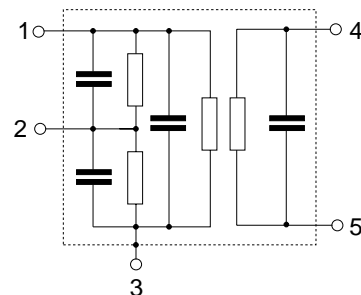
Features

- Duroplast package **SIP5K**
- Approximate weight 1.0 g
- RoHS compatible
- Tinned CuFe alloy terminals



Pin configuration

- 1 Input
- 2 Switching input
- 3 Chip carrier - ground
- 4 Output
- 5 Output



Please read *cautions and warnings and important notes* at the end of this document.


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38.00 MHz
Data sheet
Characteristics in B/G, D/K mode (switching input pin 2 connected to ground)

Reference temperature: $T_A = 25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

		min.	typ. @ 25 °C	max.	
Insertion attenuation					
	α				
Reference level for the following data	36.50 MHz	15.0	16.5	18.0	dB
Relative attenuation					
	α_{rel}				
Picture carrier	38.00 MHz	4.4	5.4	6.4	dB
Color carrier	33.57 MHz	0.7	1.7	2.7	dB
Sound carrier	31.50 MHz	18.5	20.0	21.5	dB
	32.50 MHz	14.8	16.3	17.8	dB
Adj. picture carrier	30.00 MHz	43.0	53.0	—	dB
	31.00 MHz	38.0	48.0	—	dB
Adj. sound carrier	39.50 MHz	36.0	50.0	—	dB
Lower sidelobe	25.00 ... 30.00 MHz	38.0	46.0	—	dB
Upper sidelobe	39.50 ... 45.00 MHz	35.0	43.0	—	dB
Reflected wave signal suppression					
1.3 μ s ... 6.0 μ s after main pulse (test pulse 250 ns, carrier frequency 36.50 MHz)		40.0	52.0	—	dB
Feedthrough signal suppression					
1.2 μ s ... 1.1 μ s before main pulse (test pulse 250 ns, carrier frequency 36.50 MHz)		—	56.0	—	dB
Group delay ripple predistortion					
(reference frequency 38.00 MHz)					
	$\Delta\tau$				
	36.00 MHz	—	-50	—	ns
	33.57 MHz	—	70	—	ns
Impedance at 36.50 MHz					
	Input: $Z_{IN} = R_{IN} \parallel C_{IN}$	—	1.2 \parallel 14.6	—	k Ω \parallel pF
	Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$	—	2.7 \parallel 3.4	—	k Ω \parallel pF
Temperature coefficient of frequency					
	TC_f	—	-72	—	ppm/K


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Characteristics in M/N mode (switching input pin 2 connected to pin 1)

Reference temperature: $T_A = 25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

		min.	typ. @ 25 °C	max.	
Insertion attenuation					
	α				
Reference level for the following data	36.50 MHz	15.1	16.6	18.1	dB
Relative attenuation					
	α_{rel}				
Picture carrier	38.00 MHz	4.6	5.6	6.6	dB
Color carrier	34.42 MHz	1.7	2.7	3.7	dB
Sound carrier	33.50 MHz	20.7	22.7	24.7	dB
Adj. picture carrier	32.00 MHz	36.0	42.0	—	dB
Adj. sound carrier	39.50 MHz	40.0	53.0	—	dB
Lower sidelobe	25.00 ... 32.00 MHz	35.0	42.0	—	dB
Upper sidelobe	39.50 ... 45.00 MHz	34.0	44.0	—	dB
Reflected wave signal suppression					
1.3 μ s ... 6.0 μ s after main pulse (test pulse 250 ns, carrier frequency 36.50 MHz)		40.0	52.0	—	dB
Feedthrough signal suppression					
1.2 μ s ... 1.1 μ s before main pulse (test pulse 250 ns, carrier frequency 36.50 MHz)		—	50.0	—	dB
Group delay ripple predistortion					
(reference frequency 38.00 MHz)					
	$\Delta\tau$				
	35.00 MHz	—	20	—	ns
	34.42 MHz	—	70	—	ns
Impedance at 36.50 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	1.3 \parallel 17.3	—	k Ω \parallel pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	2.7 \parallel 3.4	—	k Ω \parallel pF
Temperature coefficient of frequency					
TC_f		—	-72	—	ppm/K



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Maximum ratings

Operable temperature range	T	-25 / +65	°C	
Storage temperature range	T _{stg}	-40 / +85	°C	
DC voltage	V _{DC}	5	V	between any terminals
AC voltage	V _{pp}	10	V	between any terminals



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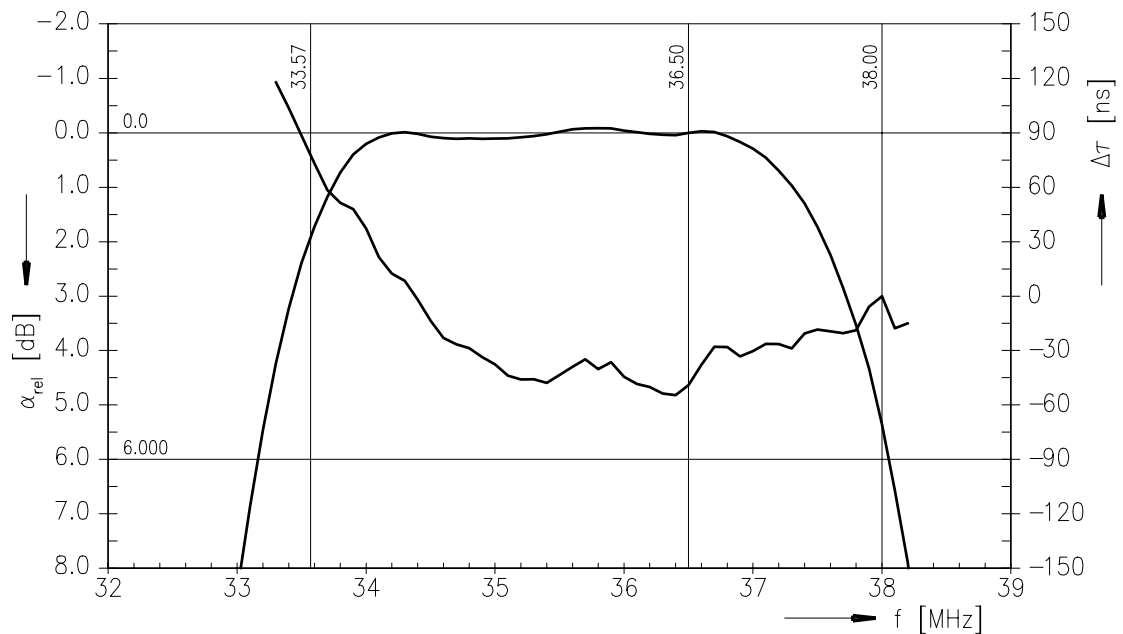
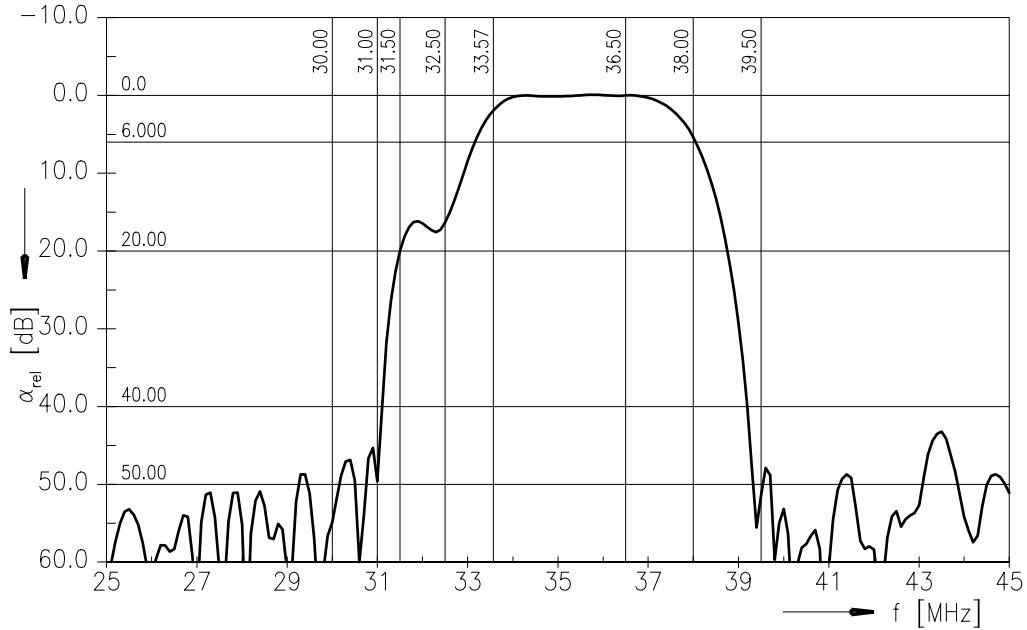
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Frequency response B/G, D/K mode



Please read *cautions and warnings* and *important notes* at the end of this document.



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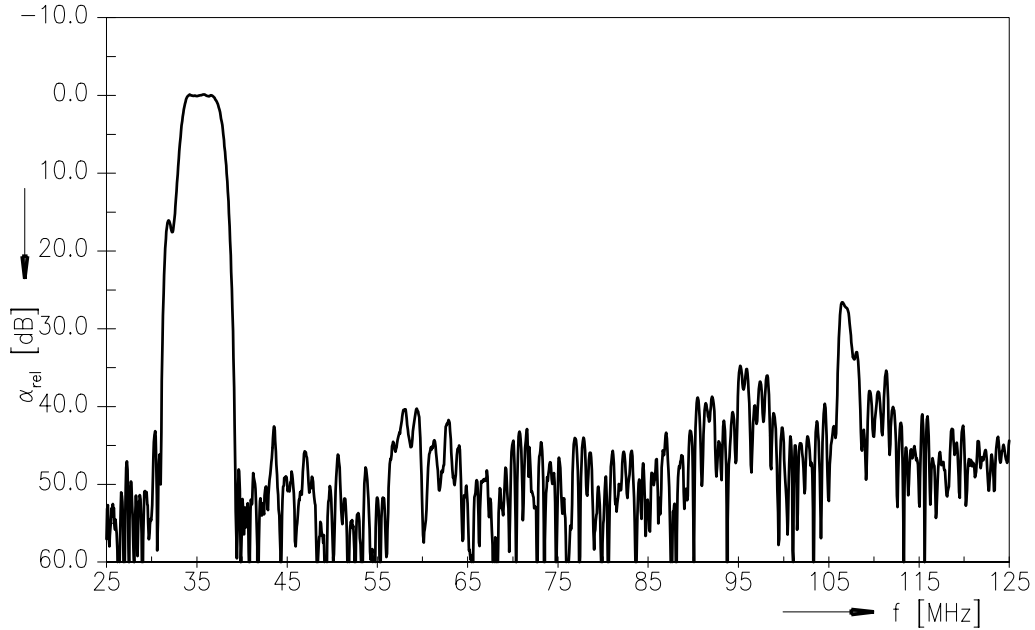
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SAW IF filter

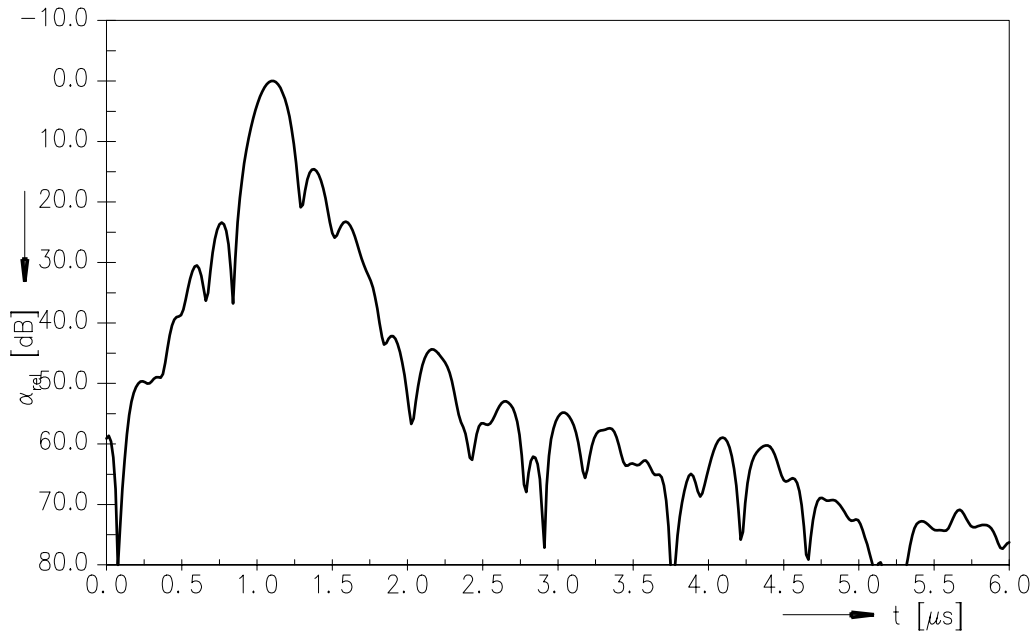
38.00 MHz

Data sheet

Frequency response B/G, D/K mode



Time domain response B/G, D/K mode



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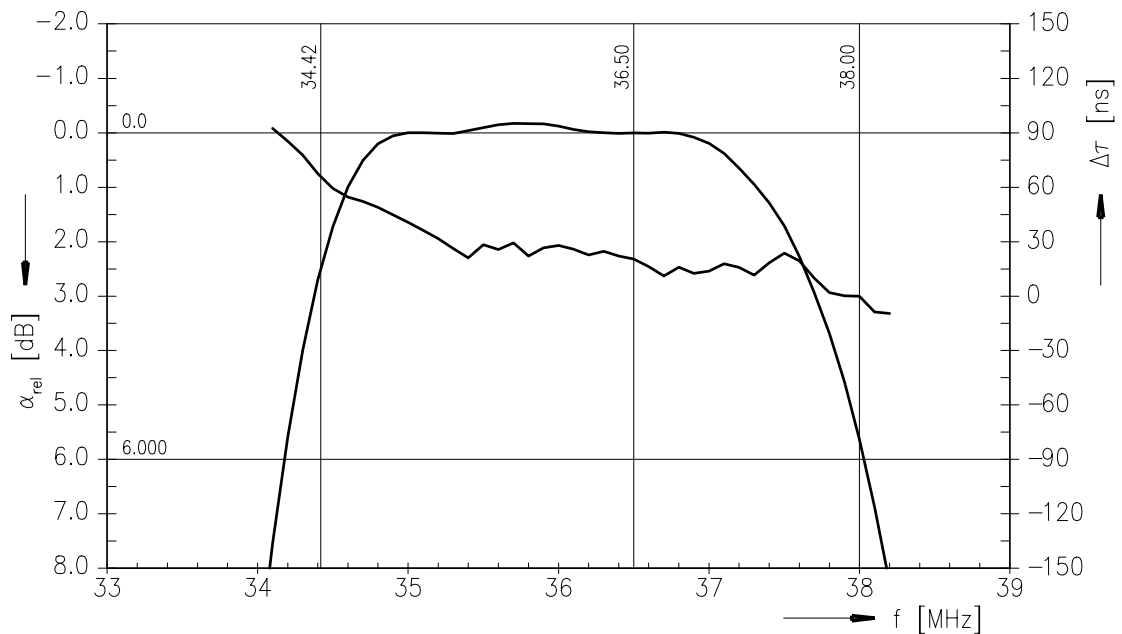
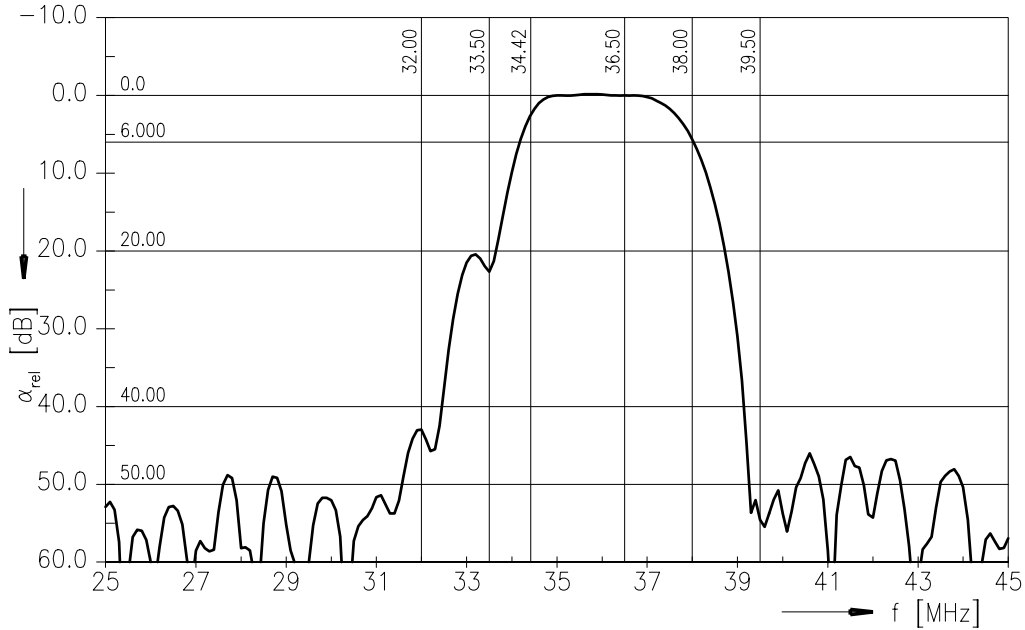
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Data sheet

Frequency response M/N mode



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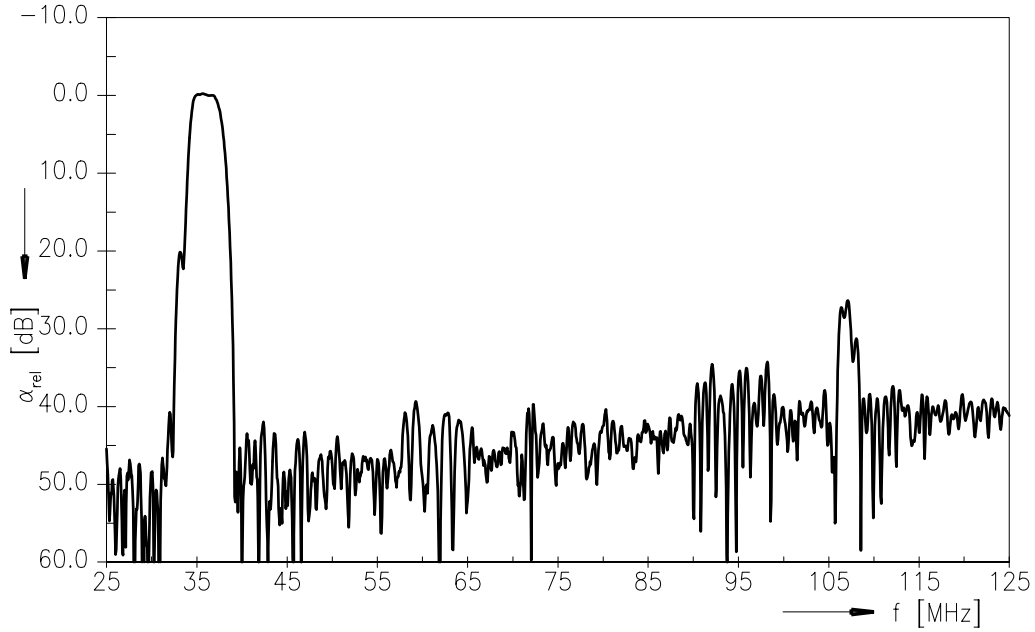
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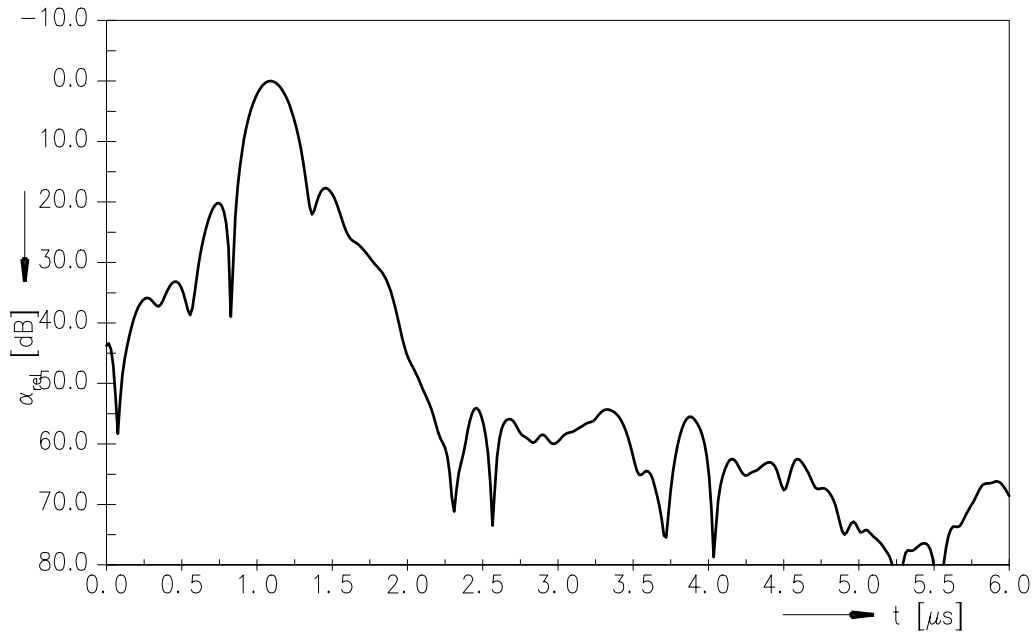
38.00 MHz

Data sheet

Frequency response M/N mode



Time domain response of M/N mode



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References

Type	K 7286 M
Ordering code	B39380-K7286-M100
Marking and package	C61157-A1-A15
Packaging	F61074-V8067-Z000
Date codes	L_1126
S-parameters	K7286M_NB.s4p
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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Please read *cautions and warnings and important notes* at the end of this document.



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