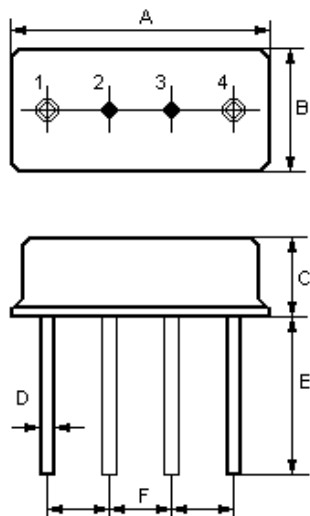


This specification covers the characteristics and specifications of SAW filters for parts ACTF139/139.0/F11, ACTF147/147.0/F11, ACTF155/155.0F11, ACTF163/163.0/F11, ACTF171/ 171.0/F11 and ACTF280/280.0/F11 which are designed for use in pager applications.

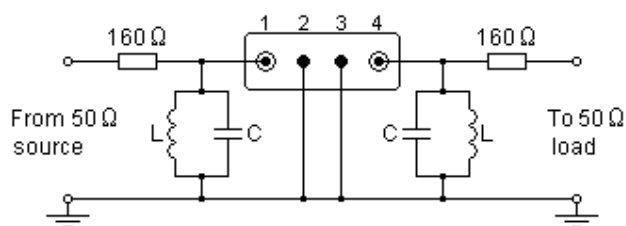
1.Package Dimension (F-11)



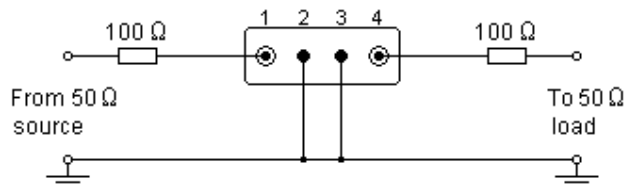
Pin	Configuration
1	Terminal 1
4	Terminal 2
2/3	Case Ground

Dimensions	Data (unit: mm)
A	11.0±0.3
B	4.5±0.3
C	3.1±0.1
D	0.45±0.2
E	6.0±0.5
F	2.54±0.2

2.Test Circuits



F139
F147
F155
F163
F171



F280

In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

ISO9001: 2000 Registered - Registration number 6830/2

For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

<http://www.actcrystals.com>

Issue : 1 C1

Date : SEPT 04

3.Performance

3-1.Maximum Ratings

Rating	Value
DC Voltage V_{DC}	+15 V Max.
AC Voltage V_{PP}	10V50Hz/60Hz
Operation temperature	-4 °C to +85 °C
Storage temperature	-45 °C to +85 °C
RF Power Dissipation	0 dBm

3-2.Electrical characteristics

Operating temperature Range: -10 °C to +50 °C

Part number	F139	F147	F155	F163	F171	Unit
Nominal centre frequency	139.0	147.0	155.0	163.0	171.0	MHz
Insertion Loss						
f_C .100.0MHz to f_C .46.8MHz	50 min.	50 min.	50 min.	50 min.	50 min.	dB
f_C .46.8MHz to f_C -38.8MHz	50 min.	50 min.	50 min.	50 min.	50 min.	dB
$f_C \pm 4.0$ MHz	6.5 max.	6.5 max.	6.5 max.	6.5 max.	6.5 max.	dB
f_C + 38.8MHz to $2.5 \times f_C$	42 min.	42 min.	42 min.	42 min.	42 min.	dB
Input/Output Impedance	210// -13.3	210// -12.1	210// -12.3	210// -11.0	210// -10.9	Ω //pF

Part number	F280	Unit
Centre Frequency	281.0	MHz
Insertion Loss 277.9MHz 284.1MHz	4.5 max.	dB
Amplitude ripple 277.9MHz 284.1MHz	1.5 max.	dB
Attenuation f_C -100.0MHz f_C -39.5MHz	48 max.	dB
f_C -39.5MHz f_C -100.0MHz	40 max.	dB
Input/Output Impedance	150	Ω

In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

ISO9001: 2000 Registered - Registration number 6830/2

For quotations or further information please contact us at:

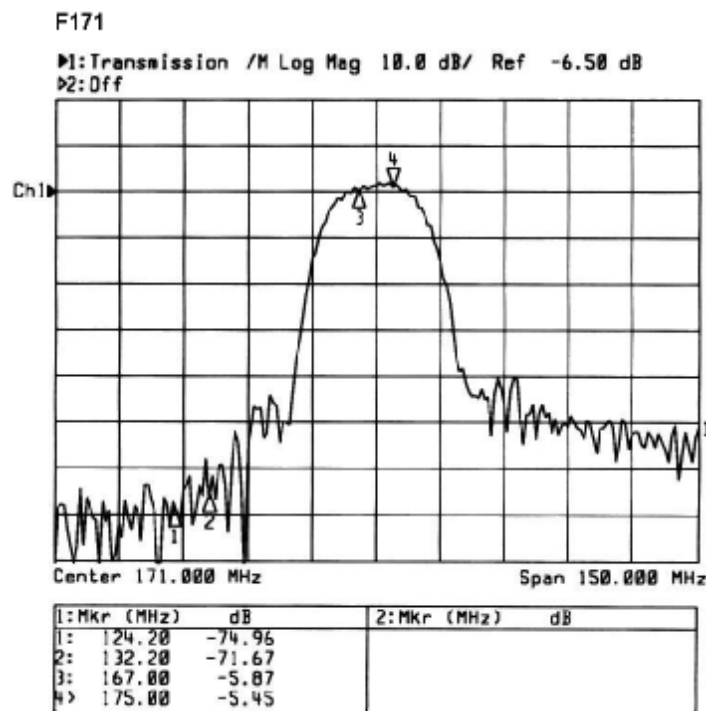
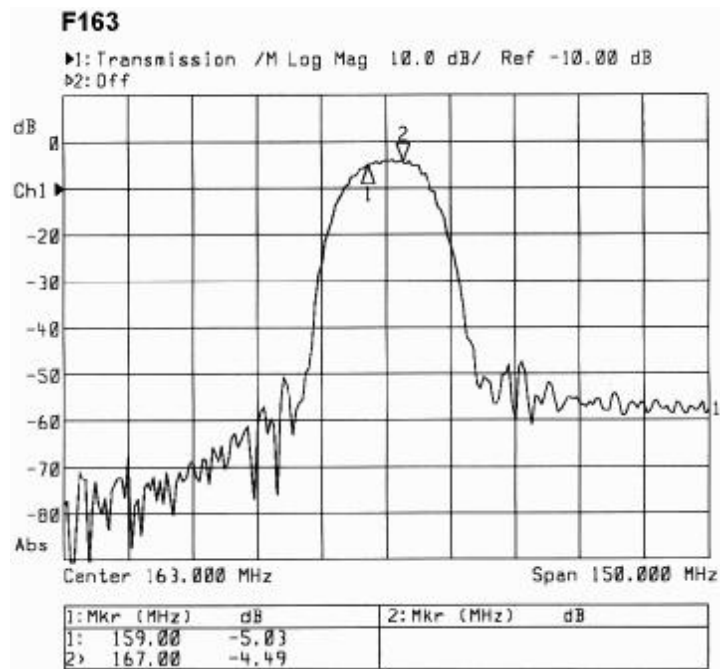
3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

<http://www.actcrystals.com>

Issue : 1 C1

Date : SEPT 04

4. Typical Frequency Response



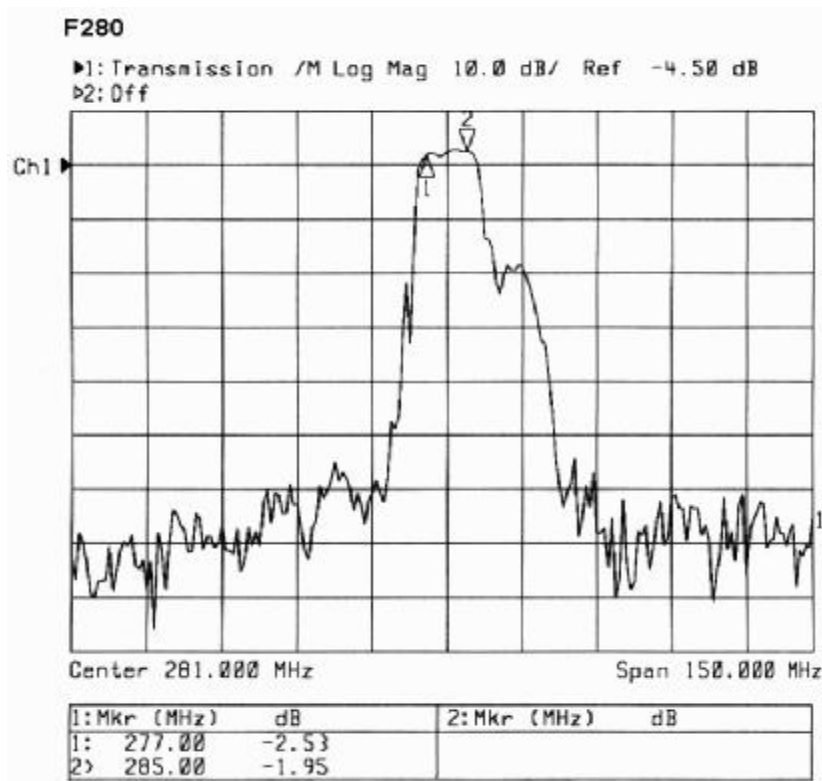
In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

ISO9001: 2000 Registered - Registration number 6830/2

For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

<http://www.actcrystals.com>



i CAUTION: Electrostatic Sensitive Device. Observe precautions for handling!

1. The frequency f_c is defined as the midpoint between the 3dB frequencies.
2. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture that is connected to a 50 Ω test system with VSWR $\leq 1.2:1$. The test fixture L and C are adjusted for minimum insertion loss at the filter centre frequency, f_c . Note that insertion loss, bandwidth, and passband shape are dependent on the impedance matching component values and quality.
3. Unless noted otherwise, specifications apply over the entire specified operating temperature range.
4. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
5. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
6. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.

In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

ISO9001: 2000 Registered - Registration number 6830/2

For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

<http://www.actcrystals.com>

Issue : 1 C1

Date : SEPT 04