ALUMINUM ELECTROLYTIC CAPACITORS

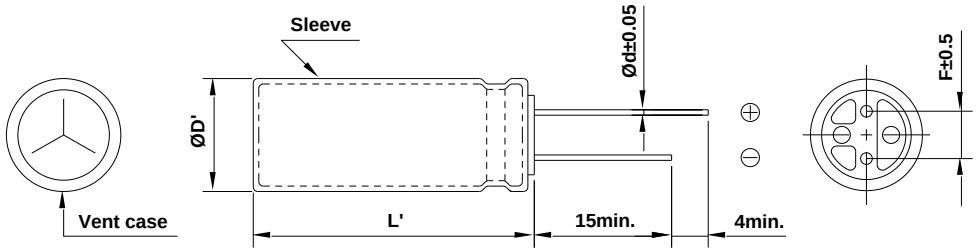
APPROVAL NO. 122313

NFR 450 VB 33 (M)

SERIES	NFR
RATING	450 V 33 ㎌
CASE SIZE	Ø16 × 20L

A. DIAGRAM OF DIMENSION

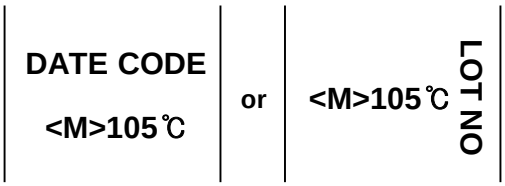
[Unit : ㎜]



ØD	16
L	20
Ød	0.8
F	7.5
ØD'	ØD+0.5 max.
L'	L+2.0 max.

B. MARKING : DARK BROWN SLEEVE & SILVER INK

FRONT VIEW OF CAPACITOR



BACK VIEW OF CAPACITOR

C. ELECTRICAL CHARACTERISTICS

A. OPERATING TEMPERATURE RANGE : - 25 ~+105℃

B. RATED VOLTAGE : 450 V_{DC}

C. SURGE VOLTAGE : 500 V_{DC}

D. CAPACITANCE TOLERANCE : ±20% at 20℃,120㎐

E. LEAKAGE CURRENT : Lower 694 ㎂ , after 1 minute at 20℃

F. DISSIPATION FACTOR (TANδ) : Lower 0.24 at 20℃, 120㎐

G. RATED RIPPLE CURRENT : 725 mArms at 105℃ , 100㎑

H. RATED RIPPLE CURRENT MULTIPLIERS (Frequency Multipliers) :

Freq.(㎐)	120	1k	10k	50k	100k
Factor	0.40	0.70	0.90	0.95	1.00

I. TEMPERATURE CHARACTERISTIC (Max. Impedance ratio) :

Z(-25℃) / Z(20℃)	6

(at 120㎐)

J. LOAD LIFE : The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 12,000 hours at 105℃.

Capacitance change ≤ ±20 % of the initial value

Tanδ ≤ 200 % of the initial specified value

Leakage Current ≤ The initial specified value

K. SHELF LIFE : The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements.

Capacitance change ≤ ±20 % of the initial value

Tanδ ≤ 200 % of the initial specified value

Leakage Current ≤ 500 % of the initial specified value

L. CLEANING CONDITIONS : Non-solvent proof

M. OTHERS : Satisfied charateristics KS C IEC 60384-4