

TA7758P

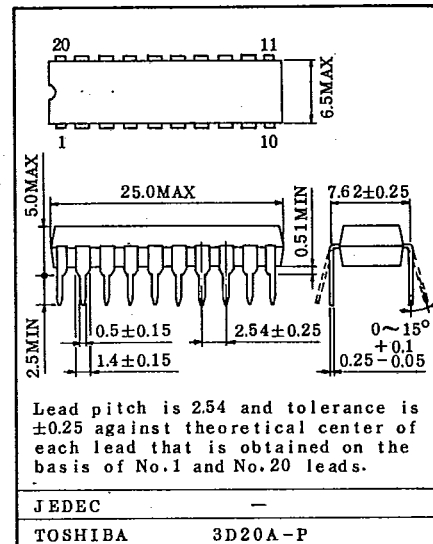
T-77-05-07

AM/FM IF SYSTEM

TA7758P has developed for music centers and radio cassette recorders. It is included many functions and it can be used for Digital Tuning System. High sensitivity of FM gain is obtained by use this IC with TA7358P.

- . FM IF Amp is 2 block.
- . Including the muting circuit using the low distortion VCA (Voltage Controlled Amplifier) and the muting attenuation and bandwidth are randomly adjusted by this circuit.
- . Including the excellent response of the directly LED driver circuit and it is capable to use the auto stop pulse for the DTS.
- . Excellent strong signal characteristics.
- . Randomly adjustable frequency characteristics of the AM detection output.
- . Built-in the AM/FM switch.
- . Common output for AM/FM.
- . Low quiescent current : AM=8mA(Typ.), FM=11mA(Typ.)
- . Few external parts.
- . Operating supply voltage range : $V_{CC}=3\sim 8V$

Unit in mm



Weight : 1.4g

MAXIMUM RATINGS (Ta=25°C)

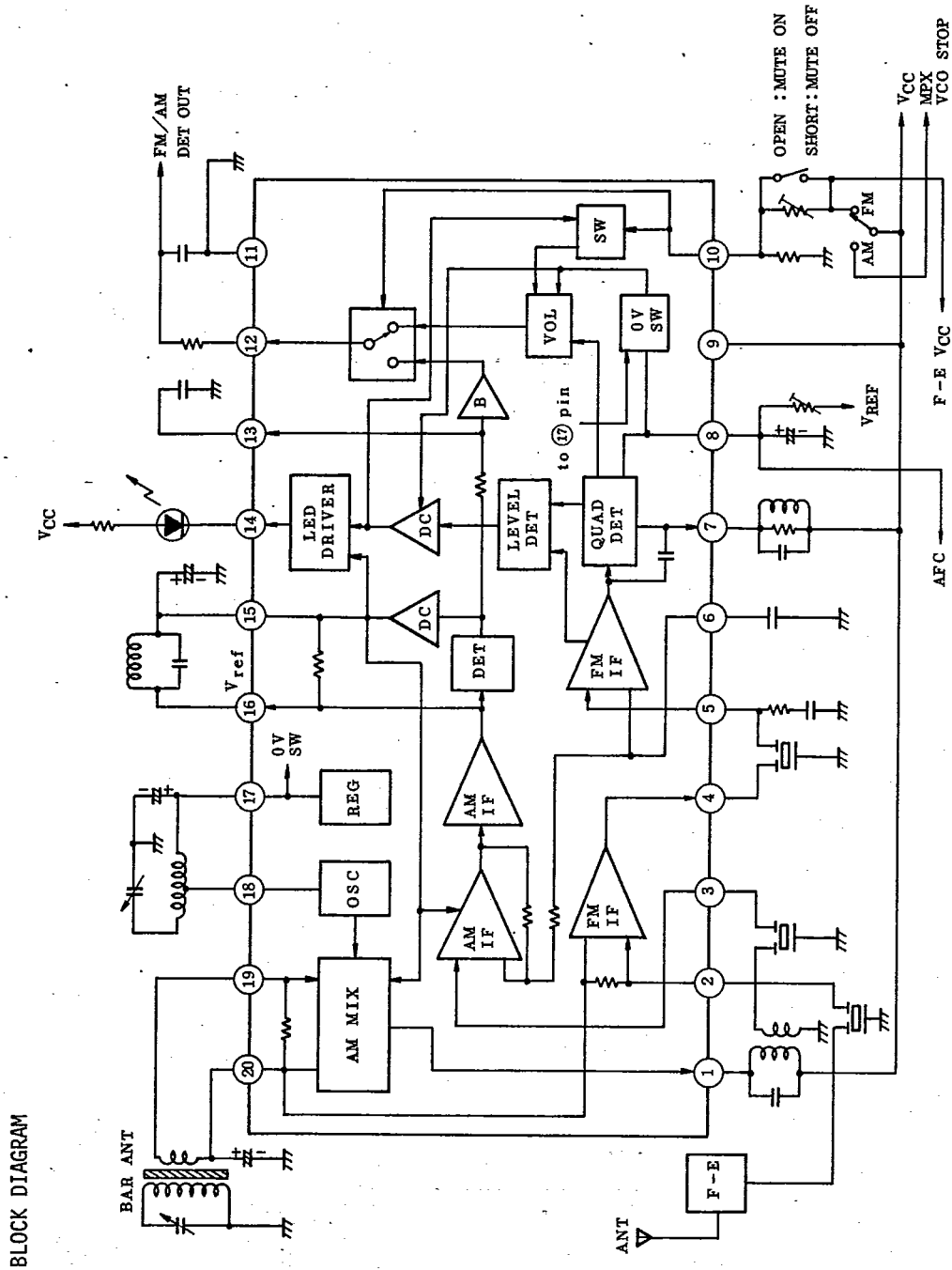
| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|--------------------------|------------|---------|------|
| Supply Voltage | V_{CC} | 8 | V |
| Lump Current | I_{LAMP} | 10 | mA |
| Power Dissipation (Note) | PD | 1200 | mW |
| Operating Temperature | T_{opr} | -25~75 | °C |
| Storage Temperature | T_{stg} | -55~150 | °C |

Note: Derated above $T_a=25^\circ C$ in the proportion of $9.6mW/^\circ C$.

AUDIO LINEAR IC

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BLOCK DIAGRAM

9097247 TOSHIBA. ELECTRONIC

02E 17558 D

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ELECTRICAL CHARACTERISTICS

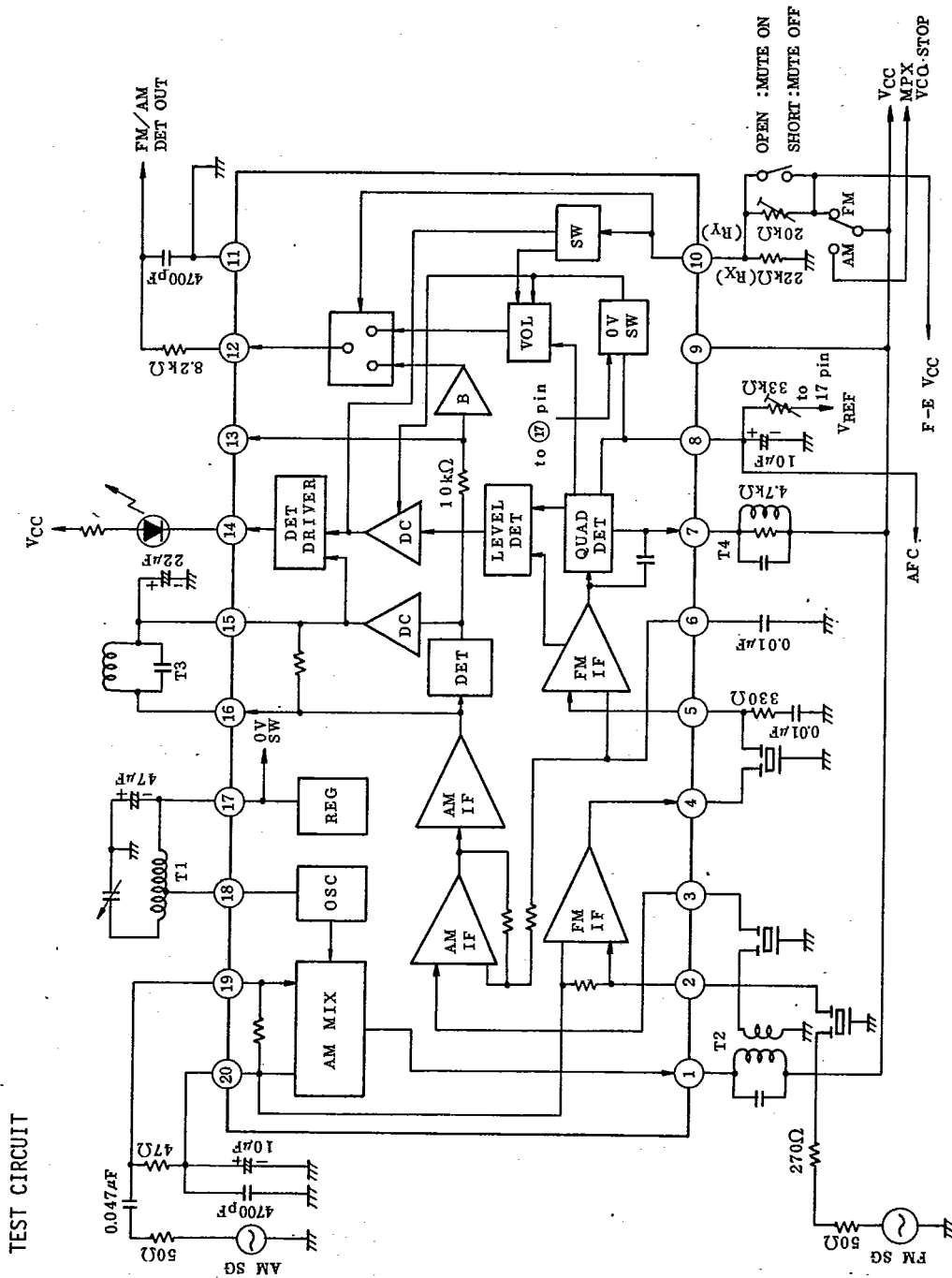
Unless otherwise specified: $V_{CC}=5V$, $T_a=25^\circ C$ FM : $f=10.7MHz$, $f_m=1kHz$, $\Delta f=\pm 22.5kHz$ dev.AM : $f=1MHz$, $f_m=1kHz$, Mod=30%

| CHARACTERISTIC | | SYMBOL | TEST CIRCUIT | TEST CONDITION | MIN. | TYP. | MAX. | UNIT | |
|----------------|---------------------------|---------------|--------------|------------------|----------------------------|------|------|----------|------------|
| Supply Current | | $I_{CC}(FM)$ | | $V_{IN}=0$ | - | 10 | 16 | mA | |
| | | $I_{CC}(AM)$ | | $V_{IN}=0$ | - | 6.5 | 10.4 | | |
| FM | Input Limiting Voltage | $V_{IN}(lim)$ | | -3dB Limiting | - | 35 | 40 | dB μ | |
| | Recovered Output Voltage | VOD | | $V_{IN}=80dB\mu$ | 83 | 110 | 138 | mVrms | |
| | Signal to Noise Ratio | S/N | | $V_{IN}=80dB\mu$ | - | 70 | - | dB | |
| | Total Harmonic Distortion | THD | | $V_{IN}=80dB\mu$ | - | 0.1 | - | % | |
| | AM Rejection Ratio | AMR | | $V_{IN}=80dB\mu$ | - | 40 | - | dB | |
| | Muting | Attenuation | ATT | | $K=0.6$ | 50 | 80 | - | dB |
| | | Band Width | BWMUTE | | $K=0.6, -3dB, R=33k\Omega$ | - | 175 | - | kHz |
| | Lamp ON Sensitivity | V_L | | $I_L=1mA$ | - | 38 | 44 | dB μ | |
| | Meter Drive Voltage | V_M | | $V_{IN}=80dB\mu$ | 1.6 | 1.7 | 1.9 | V | |
| | Gain | G_v | | $V_{IN}=26dB\mu$ | 37 | 60 | 85 | mVrms | |
| AM | Recovered Output Voltage | VOD | | $V_{IN}=60dB\mu$ | 61 | 83 | 110 | mVrms | |
| | Signal to Noise Ratio | S/N | | $V_{IN}=60dB\mu$ | - | 51 | - | dB | |
| | Total Harmonic Distortion | THD | | $V_{IN}=60dB\mu$ | - | 0.4 | - | % | |
| | Lamp ON Sensitivity | V_L | | $I_L=1mA$ | - | 25 | 31 | dB μ | |
| | Meter Drive Voltage | V_M | | $V_{IN}=60dB\mu$ | 1.3 | 1.4 | 1.5 | V | |
| | Local OSC Stop Voltage | VSTOP | | | - | - | 2.0 | V | |
| | Output Resistor | FM | $R_o(FM)$ | | | - | 2.0 | - | k Ω |
| AM | | $R_o(AM)$ | | | - | 2.0 | - | | |

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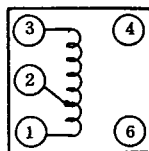
TEST CIRCUIT

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COIL DATA

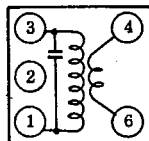
T1 AM OSC



| f (kHz) | L (μ H) | Q _o | TURN | | WIRE (mm ϕ) |
|------------|--------------|----------------|------|-----|----------------------|
| | 1-3 | | 1-3 | 1-2 | |
| 796 | 288 | 115 | 13 | 73 | 0.08 UEW |

SUMIDA ELECTRIC Co., Ltd : 4147-1356-038 or SIMILAR

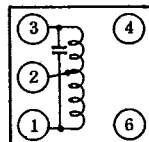
T2 AM MIX



| f (kHz) | C _o (pF) | Q _o | TURN | | WIRE (mm ϕ) |
|------------|---------------------|----------------|------|-----|----------------------|
| | 1-3 | | 1-3 | 1-3 | |
| 455 | 180 | 120 | 180 | 15 | 0.06 UEW |

SUMIDA ELECTRIC Co., Ltd : 2150-2162-165 or SIMILAR

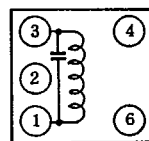
T3 AM DET



| f (kHz) | C _o (pF) | Q _o | TURN | | WIRE (mm ϕ) |
|------------|---------------------|----------------|------|-----|----------------------|
| | 1-3 | | 1-3 | 1-2 | |
| 455 | 180 | 95 | 105 | 73 | 0.06 UEW |

SUMIDA ELECTRIC Co., Ltd : 2150-2173-137 or SIMILAR

T4 FM DET



| f (MHz) | C _o (pF) | Q _o | TURN | WIRE (mm ϕ) |
|------------|---------------------|----------------|------|----------------------|
| | 1-3 | | 1-3 | |
| 10.7 | 47 | 165 | 16 | 0.09 UEW |

SUMIDA ELECTRIC Co., Ltd : 2153-4095-122 or SIMILAR

AUDIO LINEAR IC