

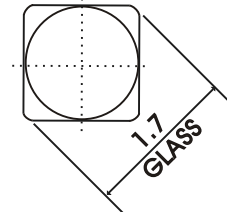
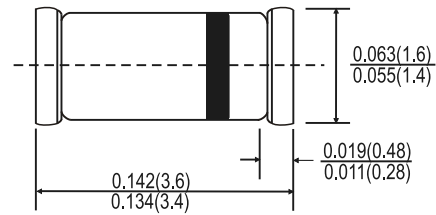
LS4148

SMALL SIGNAL SWITCHING DIODES

FEATURES:

- Silicon epitaxial planar diode
- Fast switching diodes in case QUADRO MELF, especially suited for automatic insertion

QUADRO MELF



Dimensions in inches and (millimeters)

MECHANICAL DATA

Case: QUADRO MELF glass case
Weight: Approx. 0.05gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25° C ambient temp. unless otherwise specified.

Single phase, half sine wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20 %.

| Characteristic | Symbol | LS4148 | Units |
|--|--------------------|--------------------|----------------|
| Maximum peak reverse voltage | V _{RRM} | 100 | Volts |
| Maximum reverse voltage | V _R | 75 | Volts |
| Average rectified current .half wave rectification with Resistive load at T _a =25° C And F ≥ 50HZ | I _(AV) | 0.15 ¹⁾ | Amps |
| Peak forward surge current, <1S single half sine-wave superimposed on rated load T _a =25° C | I _{FSM} | 0.5 | Amps |
| Power dissipation at T _a =25° C | P _{tot} | 500 ¹⁾ | mW |
| Maximum instantaneous forward voltage drop per leg at 0.01A | V _F | 1.0 | Volts |
| Maximum Voltage rise when switching ON tested with 50mA pulse t=0.1, S, Rise time <30, S, f=5 to 100 KHZ | V _{fr} | 2.5 | Volts |
| Maximum leakage current At V _R = 20V At V _R = 75V At V _R = 20V T _a = 150° C | I _R | 25 5 50 | nA uA uA |
| Maximum Reverse recovery time | TRR | 4 | ns |
| Maximum Junction capacitance V _R = V _F = 0V | C _J | 4 | PF |
| Maximum Thermal resistance junction to ambient | R _{th JA} | 350 ¹⁾ | K / W |
| MINIMUM rectification efficiency at f = 100MHZ, V _{RF} = 2V | η | 045 | |
| Operating temperature range | T _J | -55 to +150 | °C |
| storage temperature range | T _{stg} | -55 to +150 | °C |

NOTES:

(1) Reverse recovery condition I_F = 0.01A, I_R = 0.001A, V_R = 6V, R_L = 100

1): Valid provided that leads at a distance of 8mm from case are kept at ambient temperature (DO-35)

FIG 1-FORWARD CHARACTERISTICS

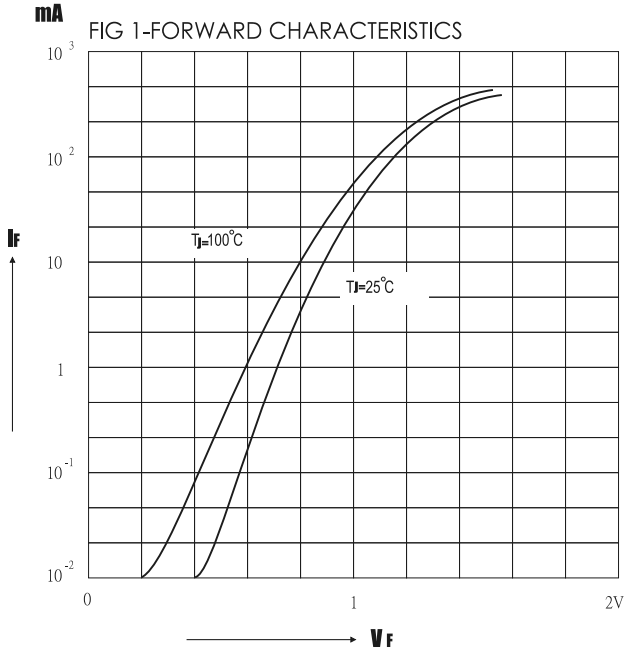


FIG 2: DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

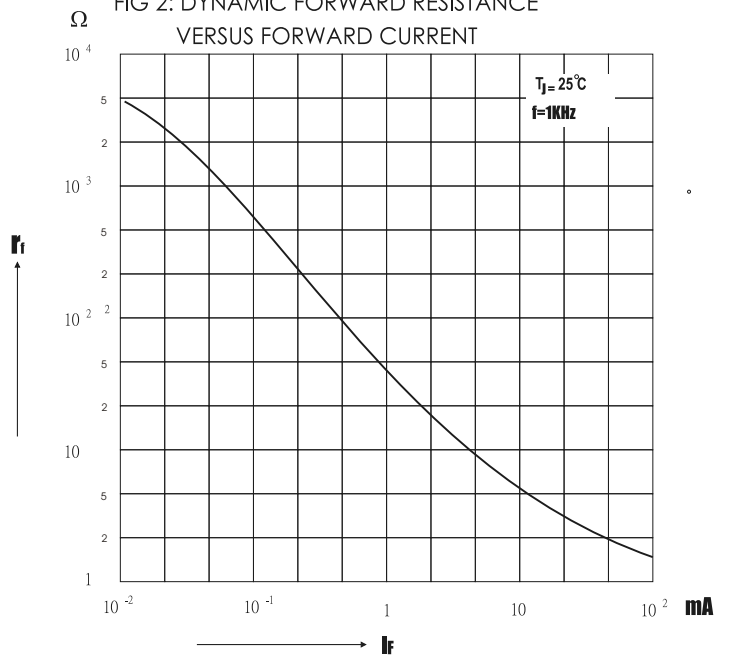


FIG 3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

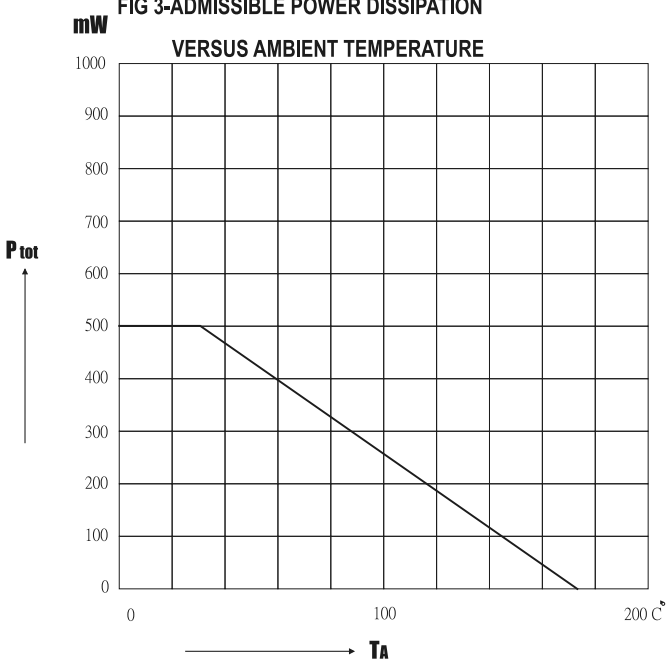


FIG. 4-RELATIVE CAPACITANCE VERSUS REVERS VOLTAGE

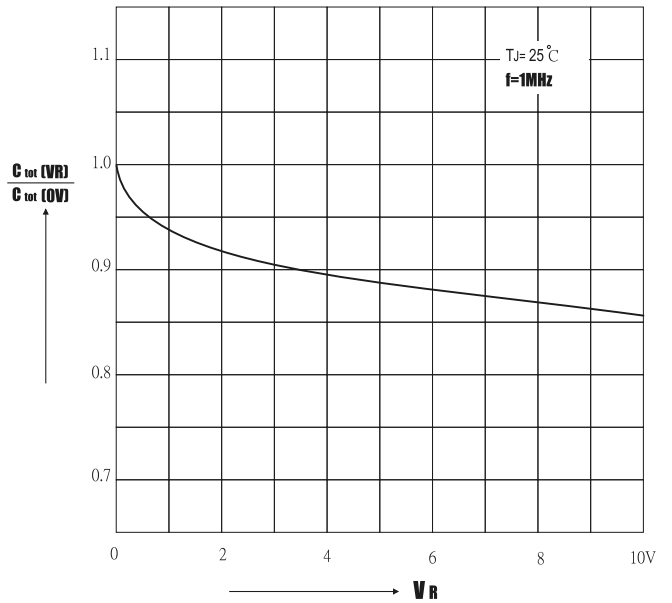


FIG.5 RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

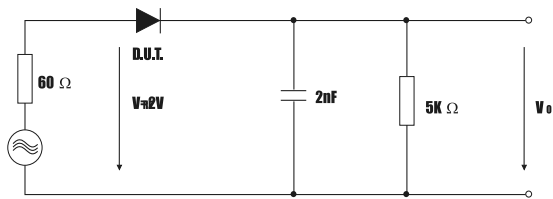


FIG 6: LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

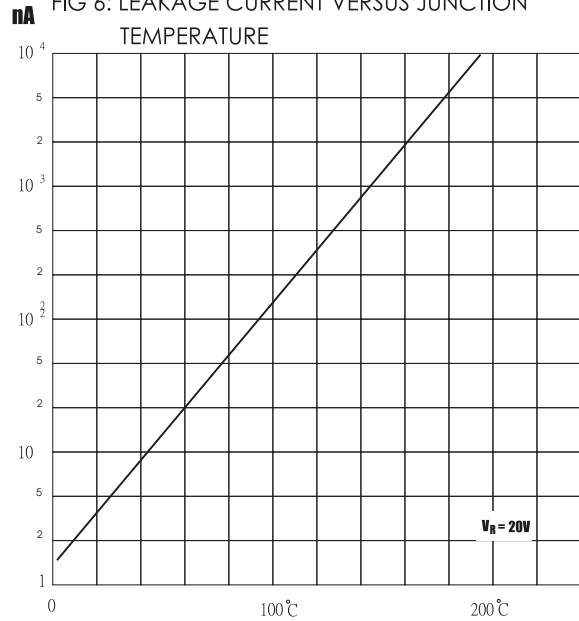


FIG 7: ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

