

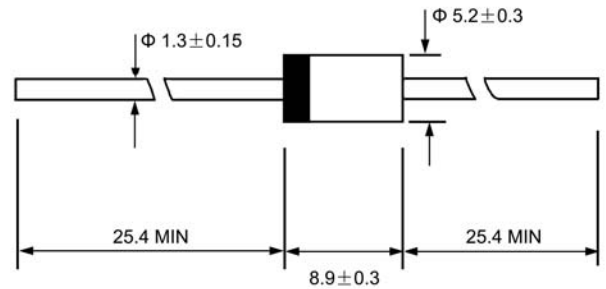
31DF3-31DF4

Super Fast Rectifiers

VOLTAGE RANGE: 300 --- 400 V

CURRENT: 1.5 A

DO - 27



Dimensions in millimeters

Features

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents

Mechanical Data

- ◇ Case: JEDEC DO--27, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 50Hz, resistive or inductive load. For capacitive load, derate by 20%.

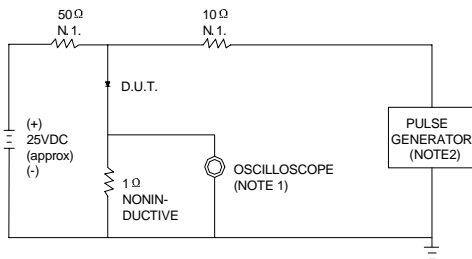
		31DF3	31DF4	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	300	400	V
Maximum RMS voltage	V_{RMS}	210	280	V
Maximum DC blocking voltage	V_{DC}	300	400	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.5		A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	125.0		A
Maximum instantaneous forward voltage @ $I_F=3\text{A}$	V_F	1.25		V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	I_R	5.0	50.0	μA
Maximum reverse recovery time (Note1)	t_{rr}	30		ns
Typical junction capacitance (Note2)	C_J	90		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	34		$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ----- + 150		$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ----- + 150		$^\circ\text{C}$

NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

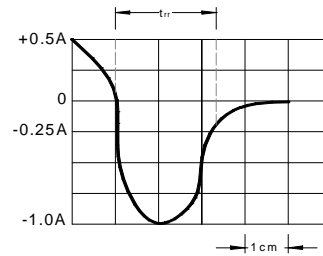
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

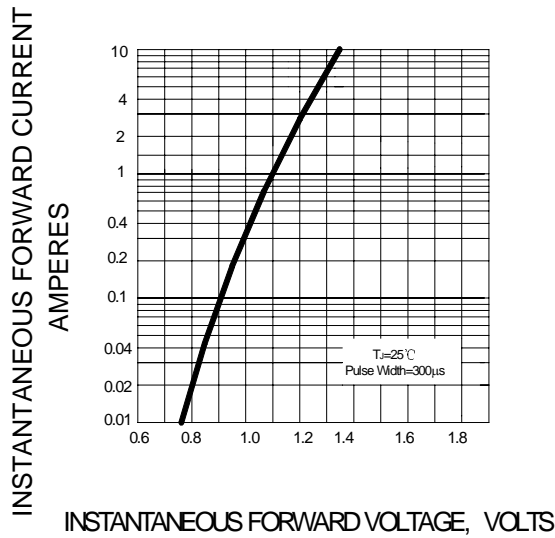
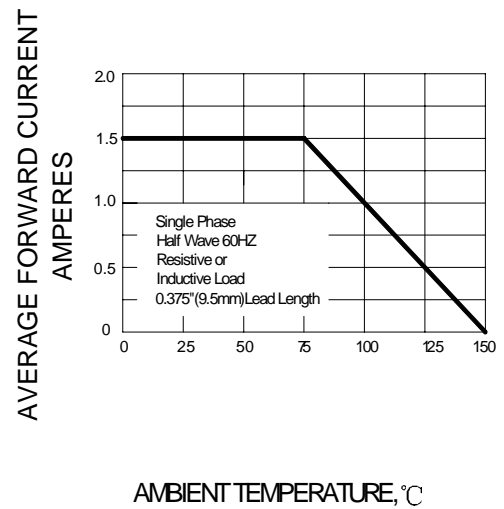
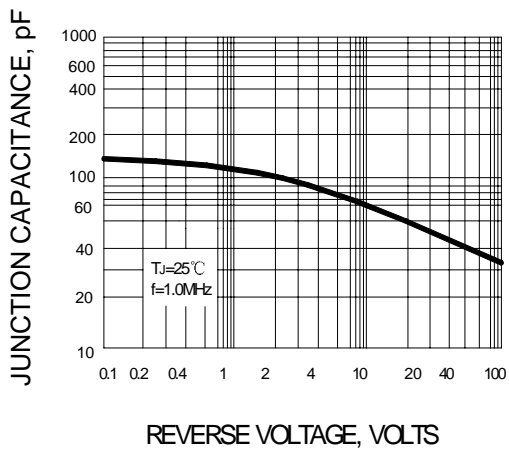
Ratings AND Characteristic Curves

FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC


NOTES:1. RISE TIME = 7ns MAX INPUT IMPEDANCE = 1MΩ, 22pF.
2. RISE TIME = 10ns MAX SOURCE IMPEDANCE = 50 Ω.



SET TIMEBASE FOR 10 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

FIG.3 – FORWARD DERATING CURVE

FIG.4– TYPICAL JUNCTION CAPACITANCE

FIG.5– PEAK FORWARD SURGE CURRENT
