

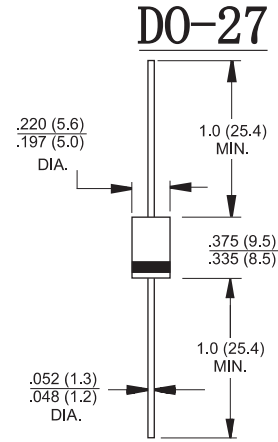


### Features

- ✧ Low power loss, high efficiency.
- ✧ High current capability, Low VF.
- ✧ High reliability
- ✧ High surge current capability.
- ✧ Epitaxial construction.
- ✧ Guard-ring for transient protection.
- ✧ For use in low voltage, high frequency inventor, free wheeling, and polarity protection application.

### Mechanical Data

- ✧ Cases: DO-201AD molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed:  
260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 1.2 grams



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%

Type Number	Symbol	1N5820	1N5821	1N5822	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	20	30	40	V
Maximum RMS Voltage	$V_{RMS}$	14	21	28	V
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_L = 90^\circ\text{C}$	$I_{(AV)}$	3.0			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	80			A
Maximum Instantaneous Forward Voltage @ 3.0A	$V_F$	0.475	0.500	0.525	V
Maximum Instantaneous Forward Voltage @ 9.0A	$V_F$	0.850	0.900	0.950	V
Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_R$	0.5 10			mA mA
Typical Junction Capacitance (Note 2)	$C_j$	200			pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	40			$^\circ\text{C}/\text{W}$
Operating Temperature Range	$T_J$	-65 to +125			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +125			$^\circ\text{C}$

- Notes:
1. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.
  2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

### RATINGS AND CHARACTERISTIC CURVES (1N5820 THRU 1N5822)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

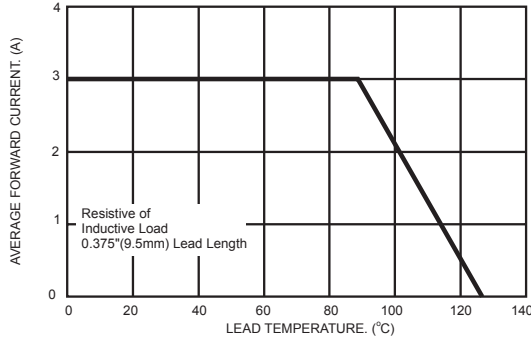


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

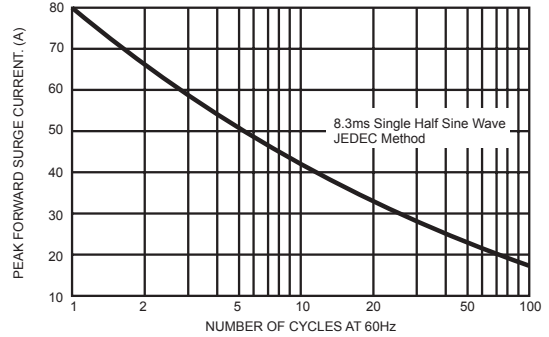


FIG.3- TYPICAL FORWARD CHARACTERISTICS

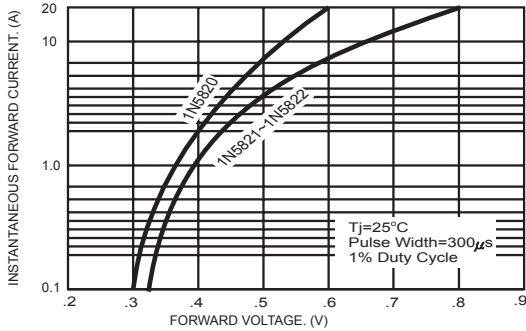


FIG.4- TYPICAL REVERSE CHARACTERISTICS

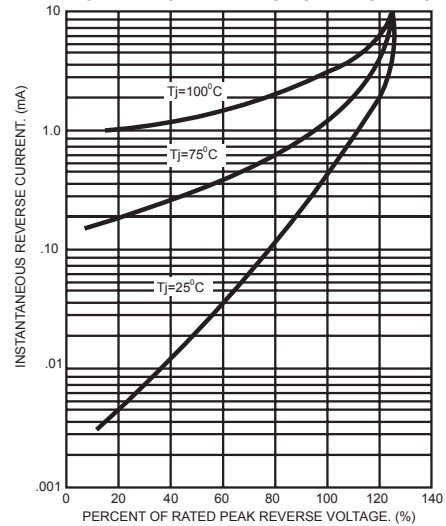


FIG.5- TYPICAL JUNCTION CAPACITANCE

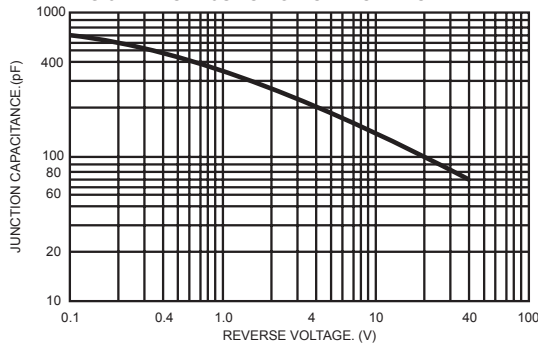
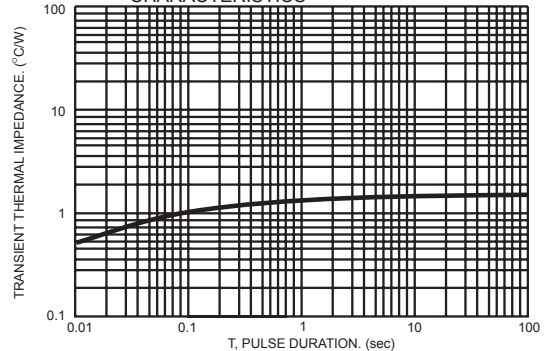


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
DO-27	1250/AMMO	12500	40X26.5X30	14.00	12.00

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