

**VOLTAGE RANGE: 1200 - 2000 V**

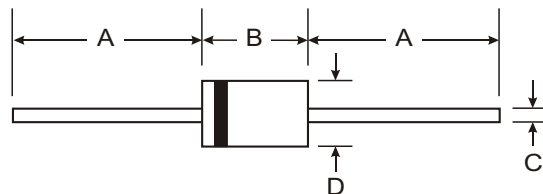
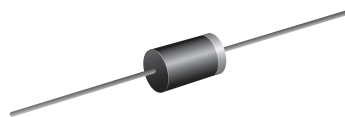
**CURRENT: 0.5 A**

### Features

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

### Mechanical Data

- Case: D O - 4 1 Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.34 grams (approx.)
- Mounting Position: Any
- Marking: Type Number



DO-41		
Dim	Min	Max
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	FR05 -12	FR05 -14	FR05 -15	FR05 -16	FR05 -18	FR05 -20	Unit
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	1200	1400	1500	1600	1800	2000	V
Maximum RMS voltage	V <sub>RMS</sub>	840	980	1050	1120	1260	1400	V
Maximum DC blocking voltage	V <sub>DC</sub>	1200	1400	1500	1600	1800	2000	V
Maximum average forward rectified current 9.5mm lead length, @T <sub>A</sub> =75°C	I <sub>F(AV)</sub>	0.5						A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load @T <sub>J</sub> =125°C	I <sub>FSM</sub>	30.0						A
Maximum instantaneous forward voltage @ 0.5 A	V <sub>F</sub>	2.0						V
Maximum reverse current @T <sub>A</sub> =25°C at rated DC blocking voltage @T <sub>A</sub> =100°C	I <sub>R</sub>	5.0 100.0						μ A
Maximum reverse recovery time (Note1)	t <sub>rr</sub>	500						ns
Typical junction capacitance (Note2)	C <sub>J</sub>	12						pF
Typical thermal resistance (Note3)	R <sub>θJA</sub>	55						°C/W
Operating junction temperature range	T <sub>J</sub>	-55 ---- + 150						°C
Storage temperature range	T <sub>STG</sub>	-55 ---- + 150						°C

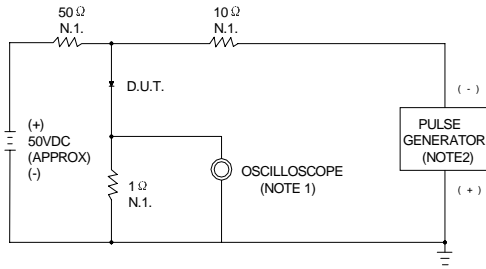
NOTE:1. Measured with I<sub>F</sub>=0.5A, I<sub>R</sub>=1A, I<sub>R</sub> =0.25A<sub>rr</sub>

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

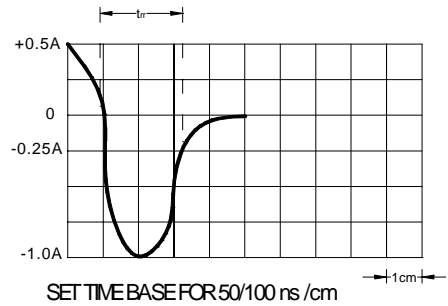
3. Thermal resistance from junction to ambient.



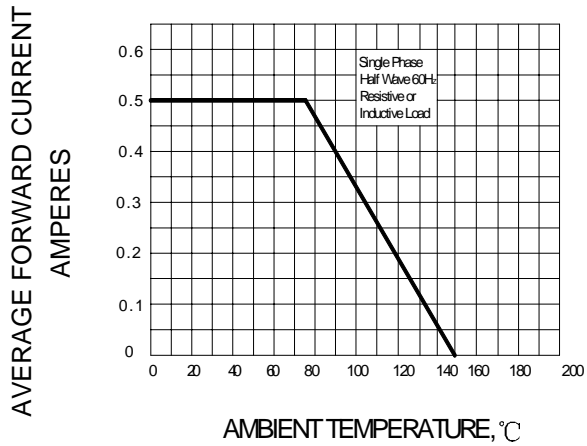
**FIG.1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



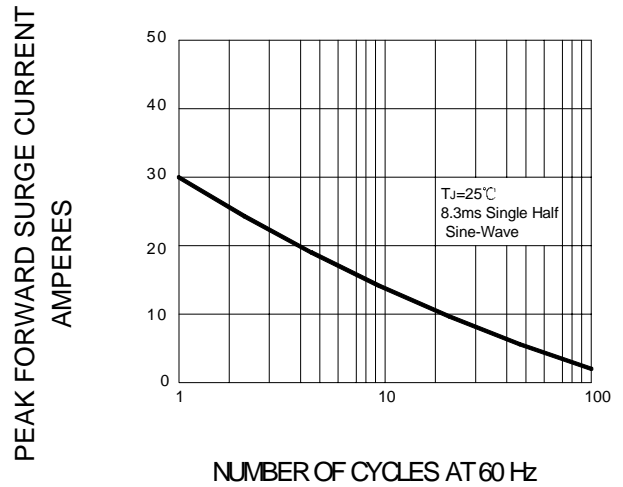
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ, 22pF  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50Ω



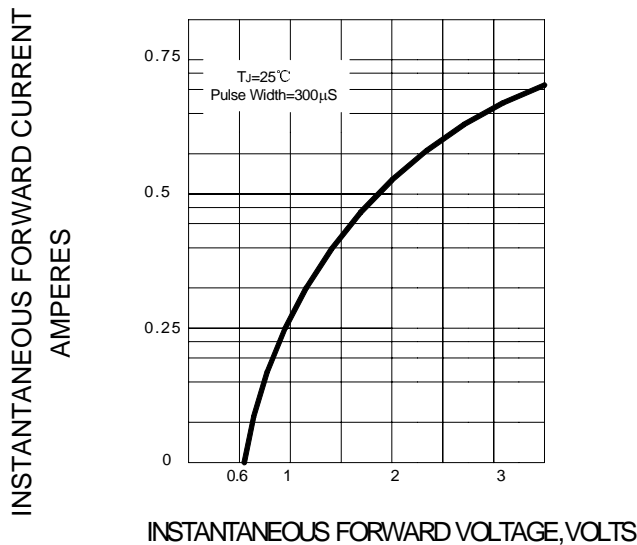
**FIG.2 – FORWARD DERATING CURVE**



**FIG.3 – PEAK FORWARD SURGE CURRENT**



**FIG.4 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.5 – TYPICAL JUNCTION CAPACITANCE**

