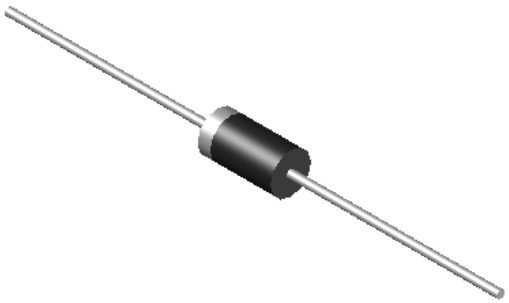
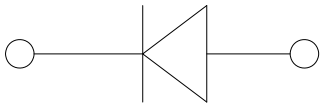
Super Fast Rectifier





Features

- Ultrafast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Glass passivated chip junction
- Solder dip 275 °C max. 7 s, per JESD 22-B106

Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

Mechanical Data

- **Package**: DO-201AD(DO-27)
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes the cathode end

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR420	MUR440	MUR460	MUR480	MUR4100
Device marking code			MUR420	MUR440	MUR460	MUR480	MUR4100
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	140	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	200	400	600	800	1000
Average Forward Current @60Hz sine wave, Resistance load, Ta =50℃	$I_{F(AV)}$	A	4.0				
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	125				
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			250				
Current squared time @1ms≤t≤8.3ms Tj=25℃，Rating of per diode	I^2t	A^2s	65				
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	Cj	pF	60	51		45	50
Storage Temperature	Tstg	℃	-55 ~ +150				
Junction Temperature	Tj	℃	-55 ~ +150				

■ Electrical Characteristics (T_a=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MUR420	MUR440	MUR460	MUR480	MUR4100
Maximum instantaneous forward voltage drop per diode	V_F	V	I_{FM}=4.0A	0.89	1.28		1.85	
Maximum DC reverse current at rated DC blocking voltage per diode	I_R	μA	T_j =25℃	2.5				
			T_j =125℃	100				
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	25	50		75	

■Dynamic Characteristics

◆ MUR420

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	Tj=25℃	I_F=1A，di/dt=-50A/us V_{RM}=30V	-	31	-
			Tj=25℃	I_F=4A di/dt=-200A/us V_{RM}=100V	-	23	-
			Tj=125℃		-	39	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	4.1	-
			Tj=125℃		-	7.0	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	47.4	-
			Tj=125℃		-	136.8	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25℃	I_R=2.4 A，L=15 mH	43.2	-	-

◆ MUR440 THRU MUR460

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	Tj=25℃	I_F=1A，di/dt=-50A/us V_{RM}=30V	-	47	-
			Tj=25℃	I_F=4A di/dt=-200A/us V_{RM}=200V	-	49	-
			Tj=125℃		-	78	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	6.7	-
			Tj=125℃		-	10.2	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	163.8	-
			Tj=125℃		-	397.2	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25℃	I_R=2.4 A，L=15 mH	43.2	-	-

◆ MUR480

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	Tj=25℃	I_F=1A，di/dt=-50A/us V_{RM}=30V	-	51	-
			Tj=25℃	I_F=4A di/dt=-200A/us V_{RM}=400V	-	64	-
			Tj=125℃		-	114	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	7.4	-
			Tj=125℃		-	11.2	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	235.8	-
			Tj=125℃		-	635.8	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25℃	I_R=2.8A，L=15 mH	58.8	-	-

◆ MUR4100

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	Tj=25℃	I_F=1A，di/dt=-50A/us V_{RM}=30V	-	63	-
			Tj=25℃	I_F=4A di/dt=-200A/us V_{RM}=400V	-	84	-
			Tj=125℃		-	165	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	8.5	-
			Tj=125℃		-	13.2	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	356.4	-
			Tj=125℃		-	1092.7	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25℃	I_R=2.0 A，L=15 mH	30.0	-	-

■Thermal Characteristics (T_a=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR420	MUR440	MUR460	MUR480	MUR4100
Typical Thermal Resistance	$R_{\theta J-A}$	℃/W	20				

■ Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR420-MUR4100	D1	Approximate 1.05	1250	1250	12500	Tape
MUR420-MUR4100	C1	Approximate 1.05	250	250	12500	Bulk

■ Characteristics (Typical)

FIG.1: Io-Ta Curve

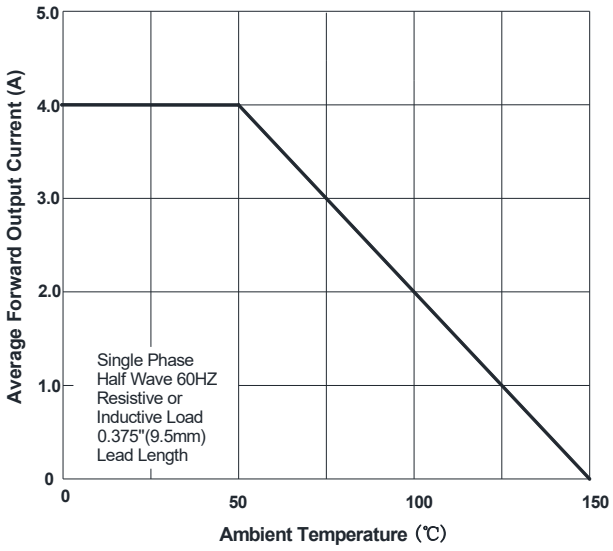


FIG.2: Forward Surge Current Capability

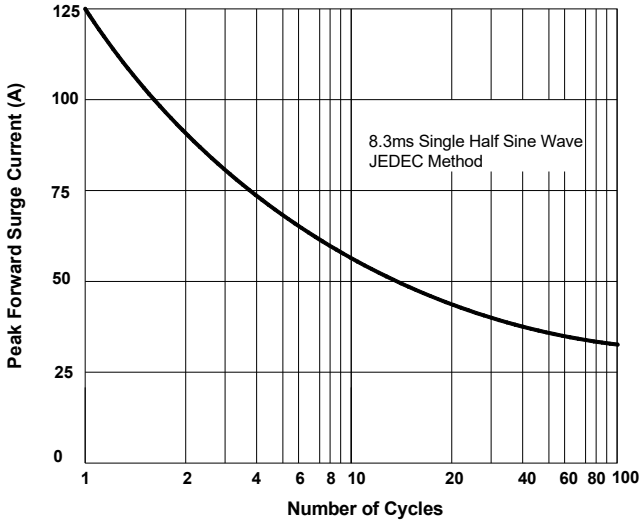


FIG.3: Forward Voltage

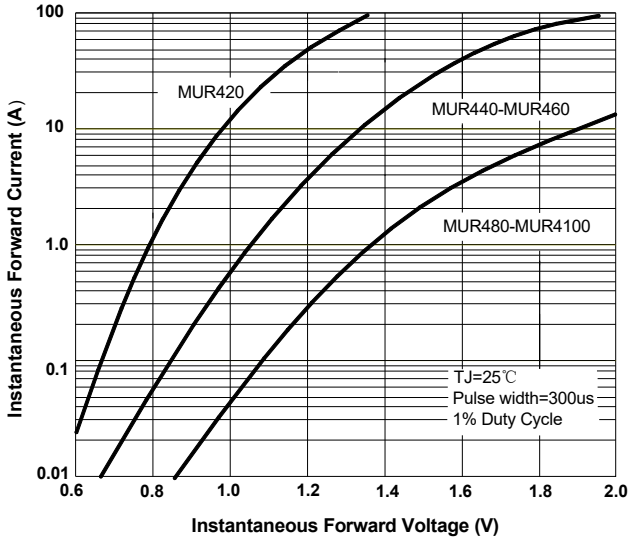


FIG.4: Typical Reverse Characteristics

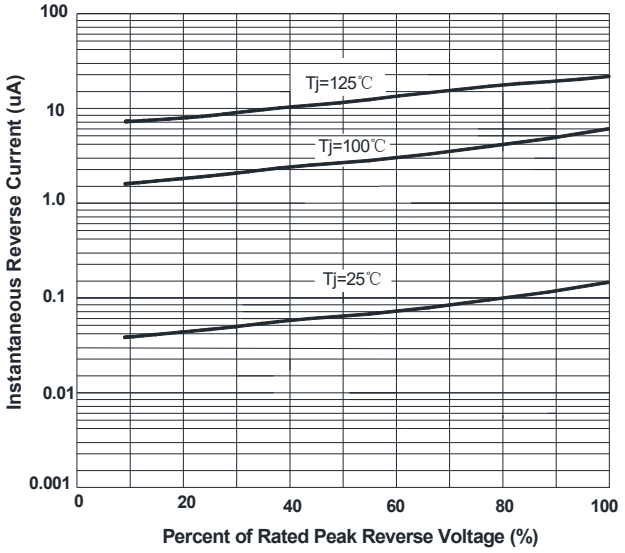
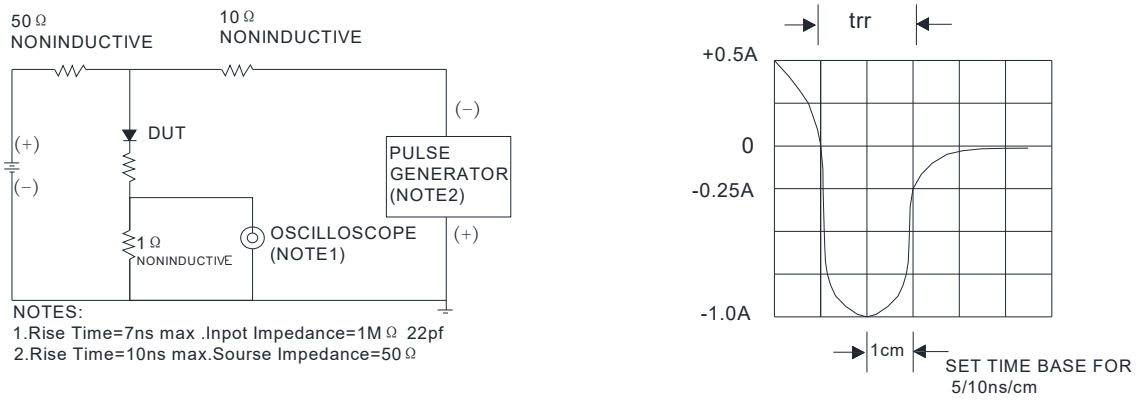
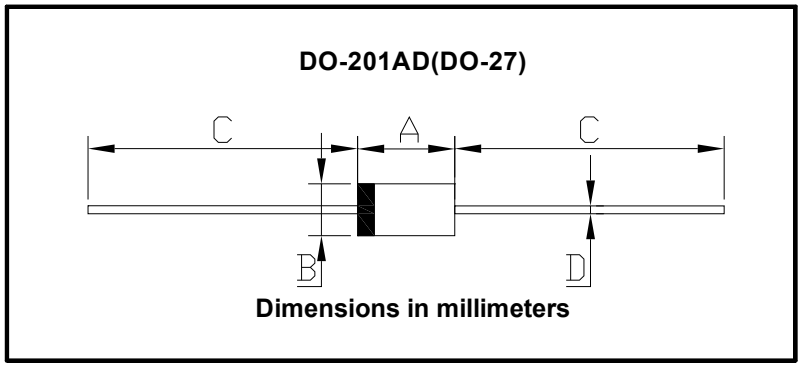


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■ Outline Dimensions



DO-201AD(DO-27)		
Dim	Min	Max
A	8.50	9.50
B	5.00	5.60
C	25.4	/
D	1.20	1.30

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