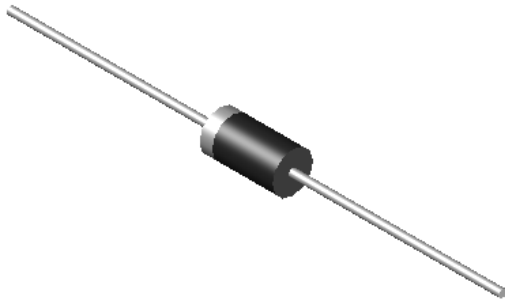




Super Fast Rectifier

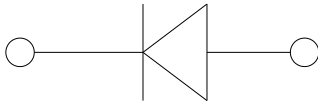


Features

- 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 ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURA460	MURA480
Device marking code			MURA460	MURA480
Maximum Repetitive Peak Reverse Voltage	VRRM	V	600	800
Maximum RMS Voltage	VRMS	V	420	560
Maximum DC blocking Voltage	VDC	V	600	800
Average Forward Current @60Hz sine wave, Resistance load, $T_a=50^\circ\text{C}$	$I_{F(AV)}$	A	4.0	
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_j=25^\circ\text{C}$	I_{FSM}	A	125	
Current squared time @1ms≤t≤8.3ms $T_j=25^\circ\text{C}$, Rating of per diode	I^2t	A ² s	65	
Typical junction capacitance @ Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	Cj	pF	30	33
Storage Temperature	Tstg	°C	-55 ~ +150	
Junction Temperature	Tj	°C	-55 ~ +150	

■ Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MURA460	MURA480
Maximum instantaneous forward voltage drop per diode	VF	V	$I_{FM}=4.0A$	1.28	1.85
Maximum DC reverse current at rated DC blocking voltage per diode	IR	μA	$T_j=25^\circ\text{C}$	2.5	
			$T_j=125^\circ\text{C}$	100	
Maximum reverse recovery time	t_{rr}	ns	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	50	75



MURA460 THRU MURA480

■ Dynamic Characteristics

◆ MURA460

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	$T_j=25^{\circ}\text{C}$	$I_F=1\text{A}$, $di/dt=-50\text{A}/\mu\text{s}$ $V_{RM}=30\text{V}$	-	47	-
			$T_j=25^{\circ}\text{C}$	$I_F=4\text{A}$ $di/dt=-200\text{A}/\mu\text{s}$ $V_{RM}=200\text{V}$	-	44	-
			$T_j=125^{\circ}\text{C}$		-	75	-
Peak recovery current	I_{RRM}	A	$T_j=25^{\circ}\text{C}$		-	6.2	-
			$T_j=125^{\circ}\text{C}$		-	9.8	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25^{\circ}\text{C}$		-	137	-
			$T_j=125^{\circ}\text{C}$		-	360	-
Non-repetitive avalanche energy	EAS	mJ	$T_j=25^{\circ}\text{C}$	$I_R=2.8\text{A}$, $L=15\text{mH}$	58.5	-	-

◆ MURA480

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	$T_j=25^{\circ}\text{C}$	$I_F=1\text{A}$, $di/dt=-50\text{A}/\mu\text{s}$ $V_{RM}=30\text{V}$	-	82	-
			$T_j=25^{\circ}\text{C}$	$I_F=4\text{A}$ $di/dt=-200\text{A}/\mu\text{s}$ $V_{RM}=400\text{V}$	-	86	-
			$T_j=125^{\circ}\text{C}$		-	168	-
Peak recovery current	I_{RRM}	A	$T_j=25^{\circ}\text{C}$		-	4.4	-
			$T_j=125^{\circ}\text{C}$		-	6.9	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25^{\circ}\text{C}$		-	191	-
			$T_j=125^{\circ}\text{C}$		-	582	-
Non-repetitive avalanche energy	EAS	mJ	$T_j=25^{\circ}\text{C}$	$I_R=3.8\text{A}$, $L=15\text{mH}$	108.3	-	-

■ Thermal Characteristics ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURA460	MURA480
Typical Thermal Resistance	$R_{\theta J-A}$	$^{\circ}\text{C}/\text{W}$	20	

■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURA460~MURA480	D1	Approximate 1.05	1250	1250	12500	Tape
MURA460~MURA480	C1	Approximate 1.05	250	250	12500	Bulk



MURA460 THRU MURA480

■ Characteristics (Typical)

FIG.1: I_o - T_a Curve

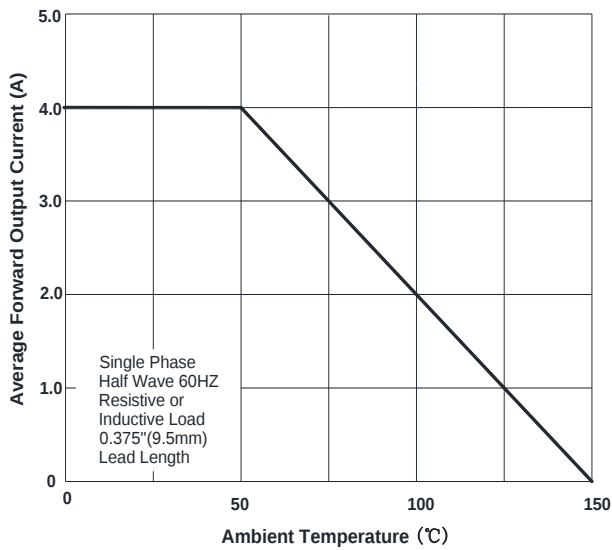


FIG.2: Forward Surge Current Capability

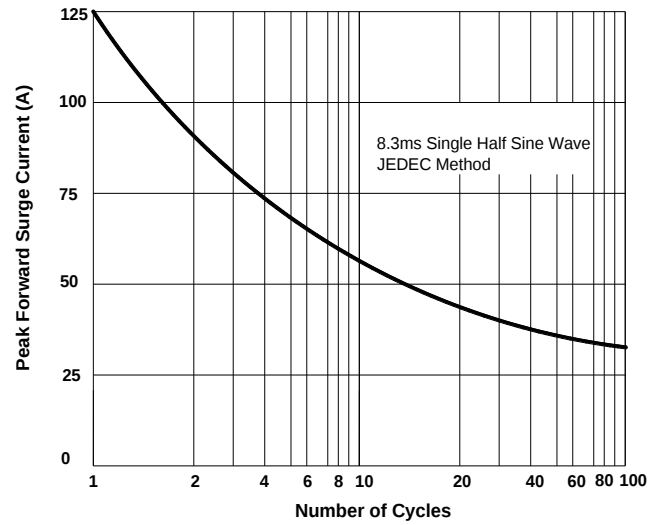


FIG.3: Typical Forward Voltage

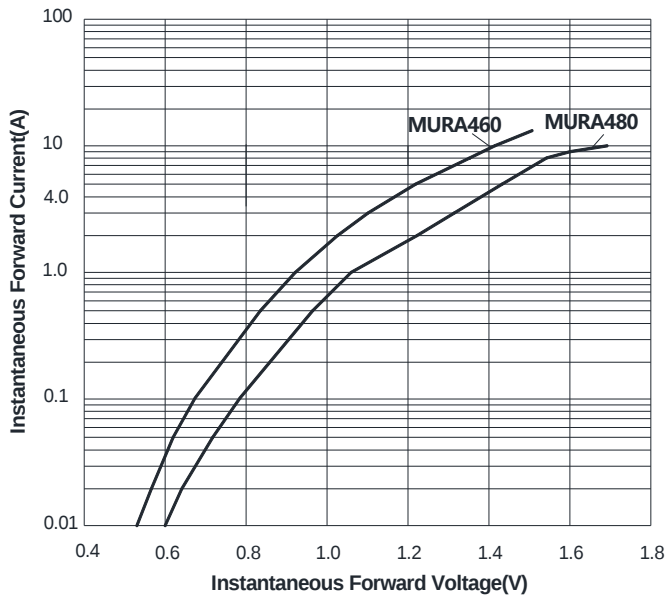


FIG.4: Typical Reverse Characteristics

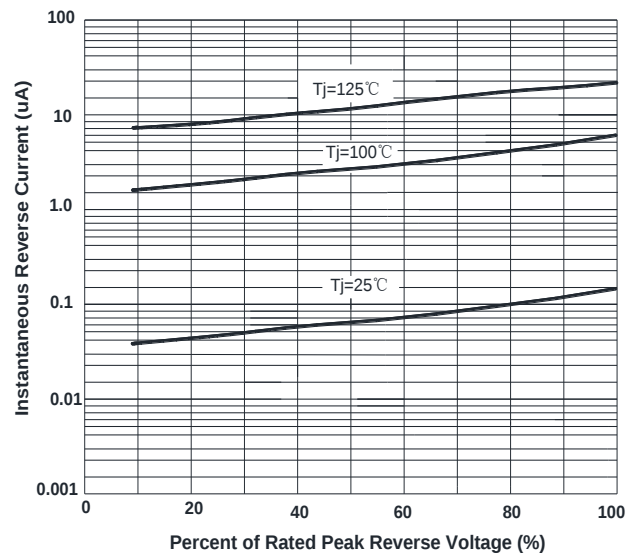
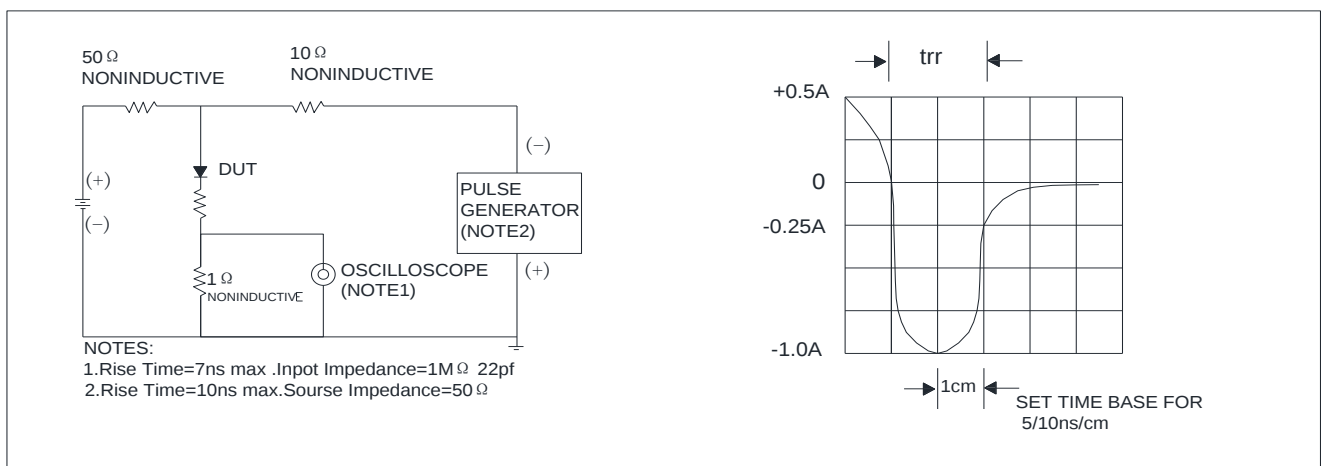


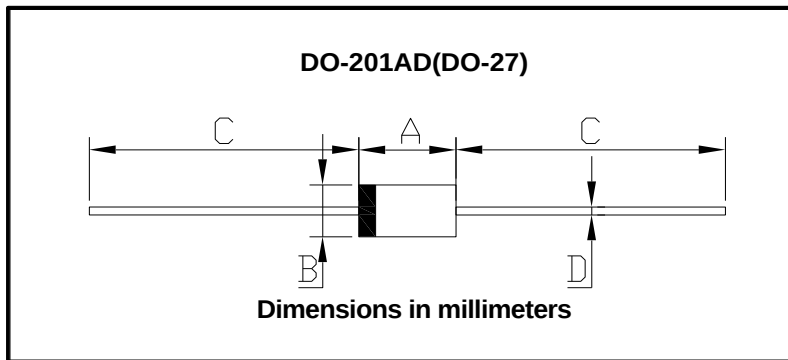
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





MURA460 THRU MURA480

■ 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



MURA460 THRU MURA480

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