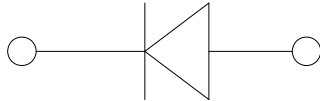
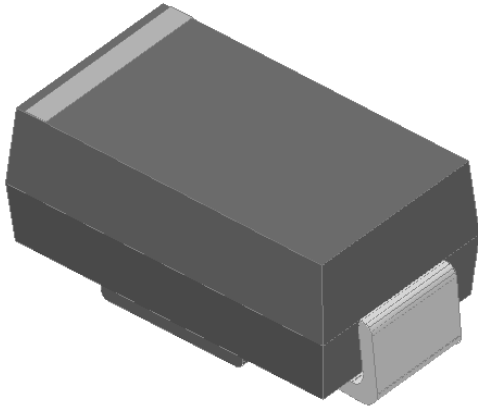


## Surface Mount Super Fast Recovery Rectifier



### Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super Fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

### Mechanical Data

- **Package:** DO-214AC(SMA)  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

### ■ Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURS220A	MURS240A	MURS260A
Device marking code			MURS220A	MURS240A	MURS260A
Maximum Repetitive Peak Reverse Voltage	VRRM	V	200	400	600
Maximum RMS Voltage	VRMS	V	140	280	420
Maximum DC blocking Voltage	VDC	V	200	400	600
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	IO	A	2.0		
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Tj=25°C	IFSM	A	50		
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25°C			100		
Current squared time @1ms≤t≤8.3ms Tj=25°C	I²t	A²s	10.375		
Storage temperature	Tstg	°C	-55 ~ +150		
Junction temperature	Tj	°C	-55 ~ +150		

### ■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MURS220A	MURS240A	MURS260A
Maximum instantaneous forward voltage	VF	V	IFM=2.0A	0.92	1.25	
Maximum reverse recovery time	tr	ns	IF=0.5A, IR=1.0A, IRR=0.25A	25	50	
Maximum DC reverse current at rated DC blocking voltage	IR	µA	Tj=25°C	5.0		
			Tj=125°C	50		
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	25	25	24



# MURS220A THRU MURS260A

## Dynamic Characteristics

### ◆ MURS220A

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	$T_{RR}$	ns	Tj=25°C	$I_F=1A, di/dt=-50A/us$ $V_{RM}=30V$	-	26	-
			Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=100V$	-	23	-
			Tj=125°C		-	30	-
Peak recovery current	$I_{RRM}$	A	Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=100V$	-	3.1	-
			Tj=125°C		-	5.0	-
Reverse recovery charge	Qrr	nC	Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=100V$	-	35.4	-
			Tj=125°C		-	73.8	-
Non-repetitive avalanche energy	EAS	mJ	Tj=25°C	$I_R=1.8 A, L=15 mH$	24.3	-	-

### ◆ MURS240A

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	$T_{RR}$	ns	Tj=25°C	$I_F=1A, di/dt=-50A/us$ $V_{RM}=30V$	-	35	-
			Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=200V$	-	30	-
			Tj=125°C		-	45	-
Peak recovery current	$I_{RRM}$	A	Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=200V$	-	3.7	-
			Tj=125°C		-	5.8	-
Reverse recovery charge	Qrr	nC	Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=200V$	-	55.4	-
			Tj=125°C		-	130.6	-
Non-repetitive avalanche energy	EAS	mJ	Tj=25°C	$I_R=0.5A, L=15 mH$	1.9	-	-

### ◆ MURS260A

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	$T_{RR}$	ns	Tj=25°C	$I_F=1A, di/dt=-50A/us$ $V_{RM}=30V$	-	50	-
			Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=400V$	-	43	-
			Tj=125°C		-	66	-
Peak recovery current	$I_{RRM}$	A	Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=400V$	-	5.0	-
			Tj=125°C		-	7.4	-
Reverse recovery charge	Qrr	nC	Tj=25°C	$I_F=2A$ $di/dt=-200A/us$ $V_{RM}=400V$	-	105.9	-
			Tj=125°C		-	243.8	-
Non-repetitive avalanche energy	EAS	mJ	Tj=25°C	$I_R=0.5A, L=15 mH$	1.9	-	-

## Thermal Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURS220A	MURS240A	MURS260A
Typical Thermal resistance	$R_{\theta J-A}^{(1)}$	°C/W	65		
	$R_{\theta J-L}^{(1)}$		25		
	$R_{\theta J-C}^{(1)}$		20		

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas



# MURS220A THRU MURS260A

## ■ Characteristics (Typical)

FIG.1: Io-TL Curve

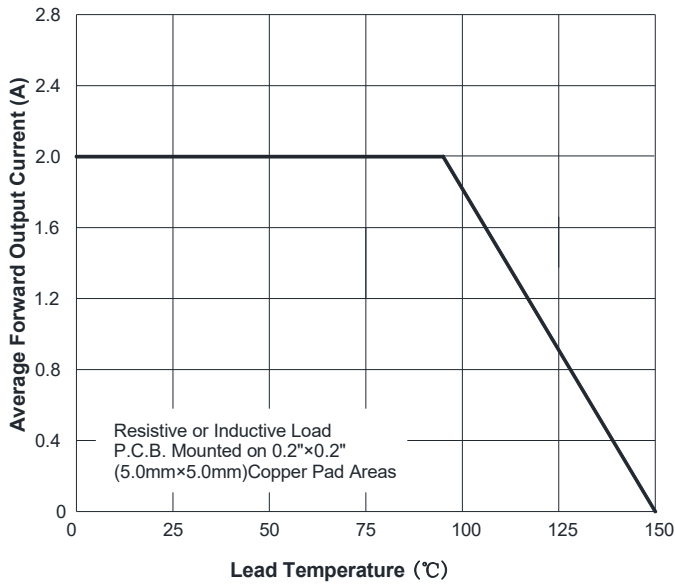


FIG.2: Forward Surge Current Capability

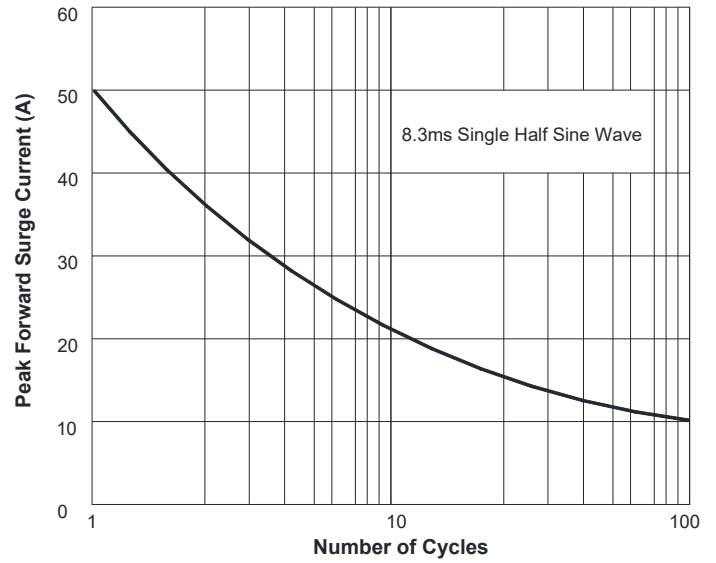


FIG.3: Typical Forward Voltage

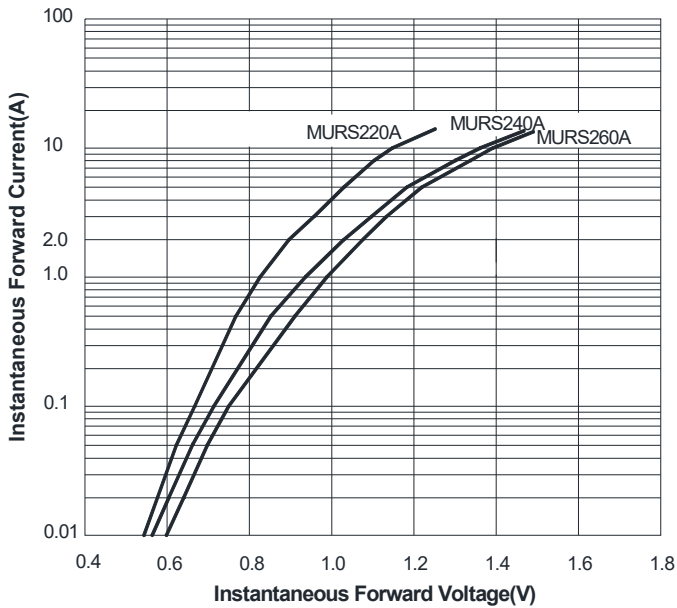


FIG.4: Typical Reverse Characteristics

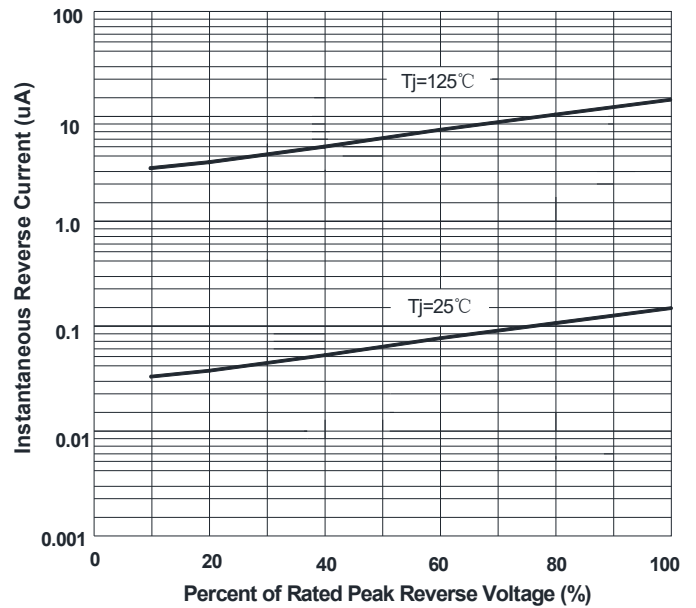
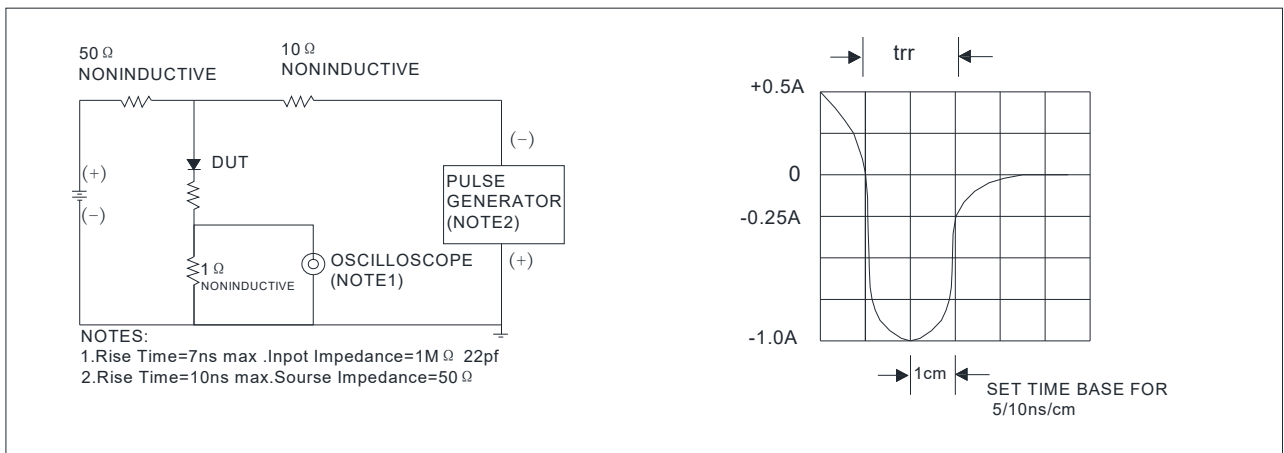


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



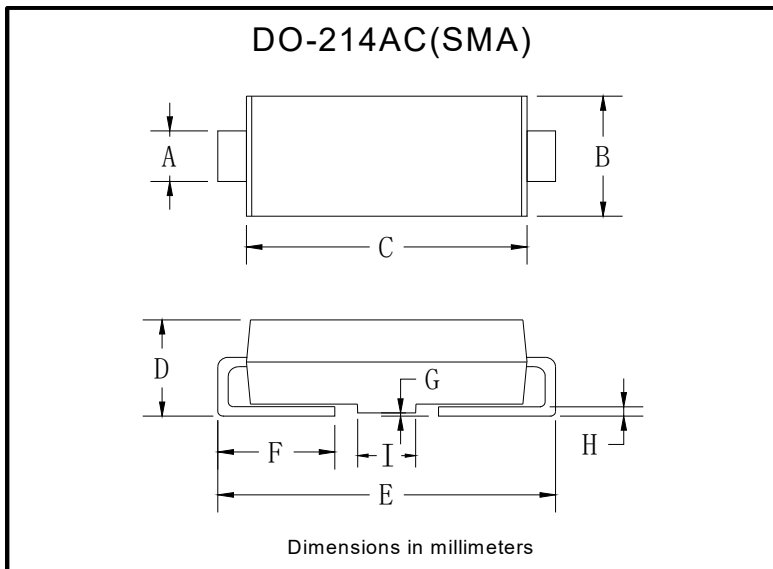


# MURS220A THRU MURS260A

## Ordering Information (Example)

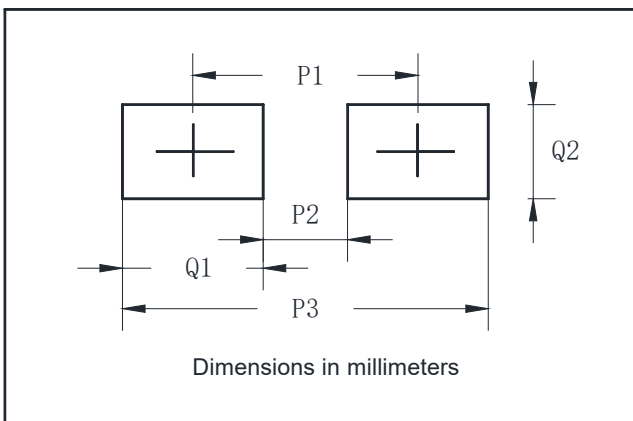
PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURS220A-MURS260A	F1	Approximate 0.059	5000	/	80000	13" reel
MURS220A-MURS260A	F2	Approximate 0.059	7500	/	120000	13" reel
MURS220A-MURS260A	F3	Approximate 0.059	7500	/	60000	13" reel
MURS220A-MURS260A	F4	Approximate 0.059	1800	14400	57600	7" reel
MURS220A-MURS260A	F5	Approximate 0.059	2000	16000	64000	7" reel
MURS220A-MURS260A	F6	Approximate 0.059	5000	/	100000	13" reel

## Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.70	2.10

## Suggested Pad Layout



DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70



## MURS220A THRU MURS260A

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