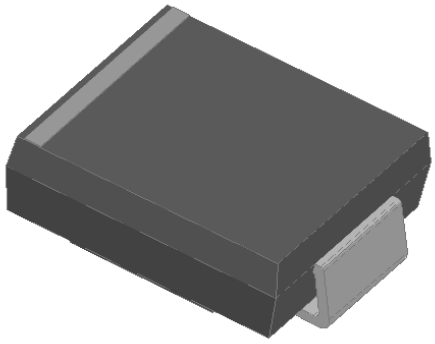
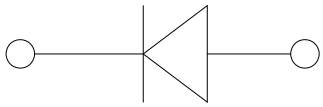
Surface Mount Ultrafast Rectifier Diode





Features

- Ultrafast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 260 °C max. 10 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-214AB (SMC)
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**: Color band denotes the cathode end

■Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURS460
Device marking code			MURS460
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	600
Maximum RMS Voltage	V_{RMS}	V	420
Maximum DC blocking Voltage	V_{DC}	V	600
Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1)	I_O	A	4.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	100
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			200
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	41.5
Storage Temperature	T_{stg}	℃	-55 ~ +150
Junction Temperature	Tj	℃	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MURS460
Maximum instantaneous forward voltage	V_F	V	I_{FM}=4.0A	1.25
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	50
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	Tj =25℃	5
			Tj =125℃	50
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	50

■Dynamic Characteristics

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	-	49	-
			Tj=25℃	I_F=4A di/dt=-200A/us V_{RM}=400V	-	50	-
			Tj=125℃		-	77	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	6.6	-
			Tj=125℃		-	10.0	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	167.8	-
			Tj=125℃		-	382.1	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25℃	I_R=0.8 A，L=15 mH	4.8	-	-

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

PARAMETER	SYMBOL	UNIT	MURS460
Typical Thermal resistance	$R_{\theta J\text{-}A}$(1)	℃/W	50
	$R_{\theta J\text{-}L}$(1)		18
	$R_{\theta J\text{-}C}$(1)		12

Note(1)
Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

■Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURS460	F1	Approximate 0.248	3000	/	42000	13” reel

■ Characteristics(Typical)

FIG.1: Io-TL Curve

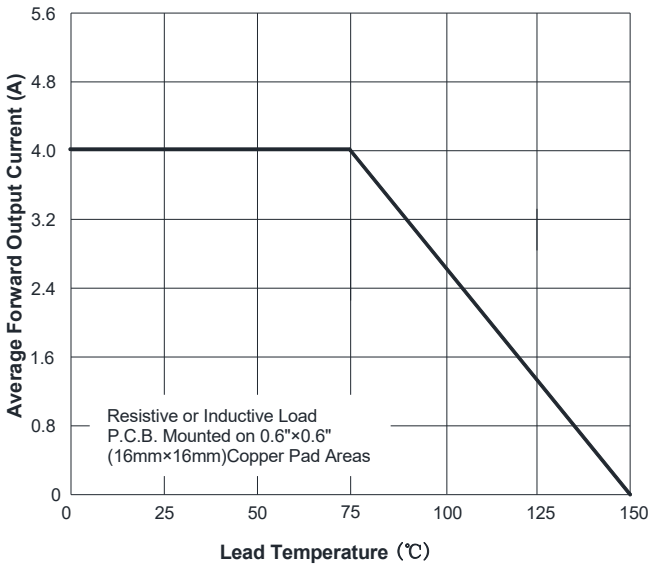


FIG.2: Forward Surge Current Capadility

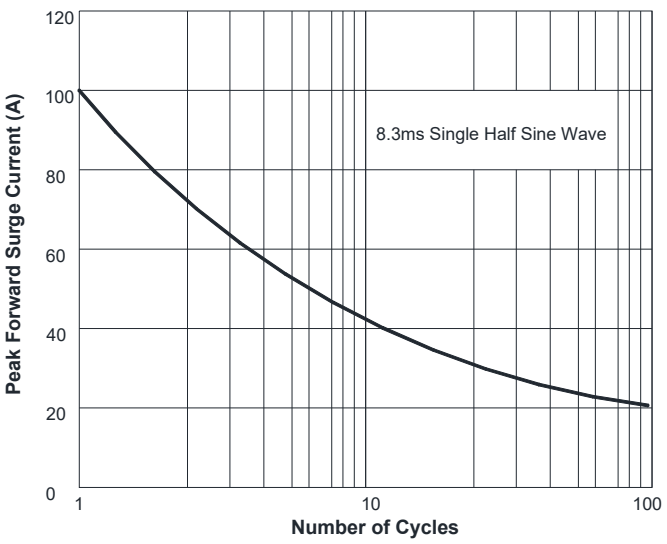


FIG.3: Typical Forward Voltage

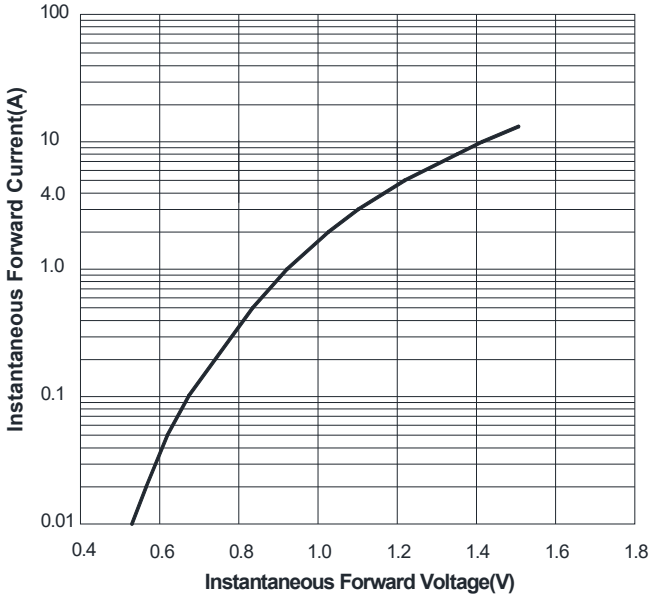


FIG.4: Typical Reverse Characteristics

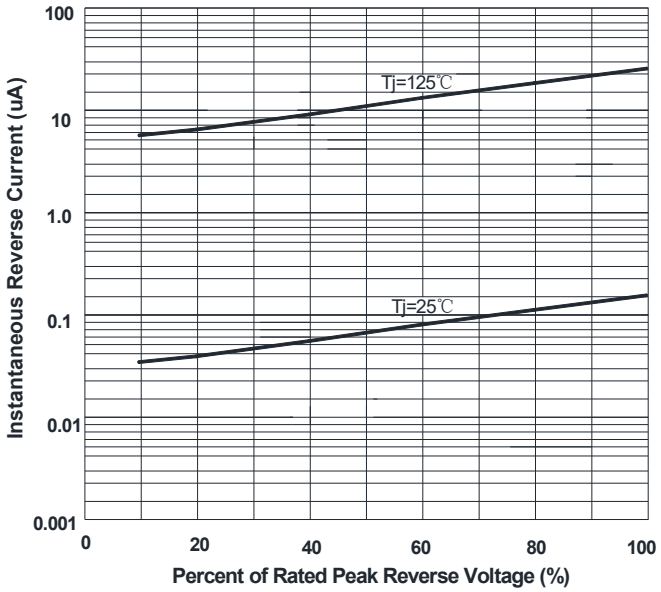
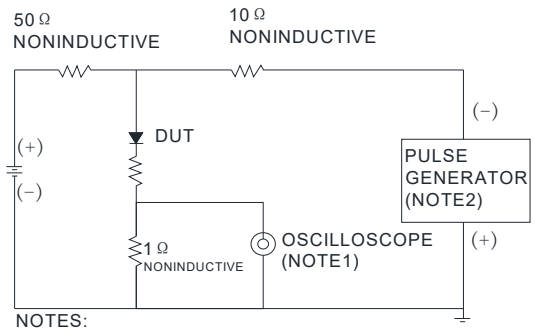
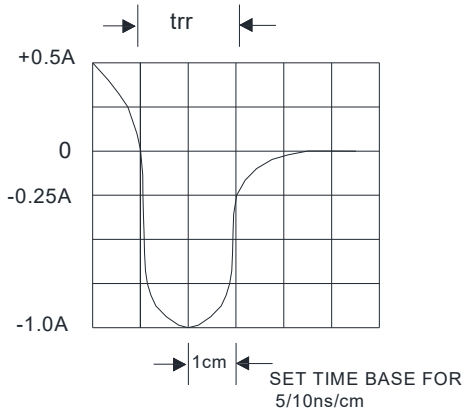
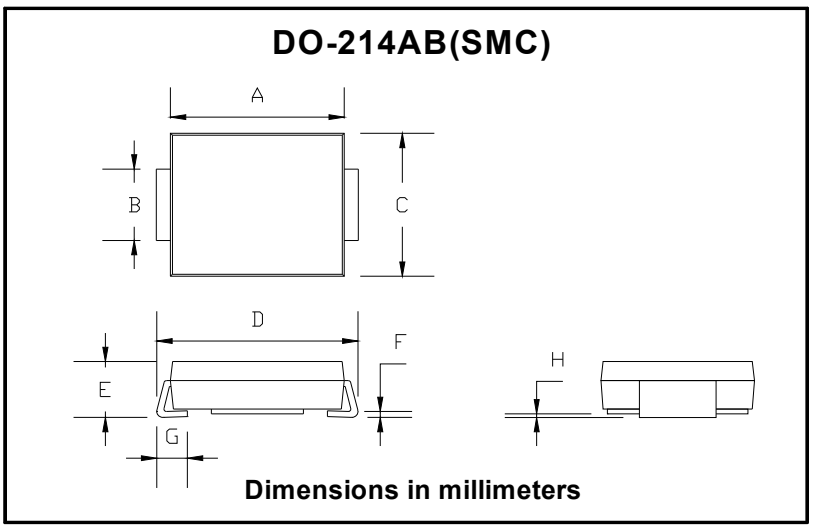


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



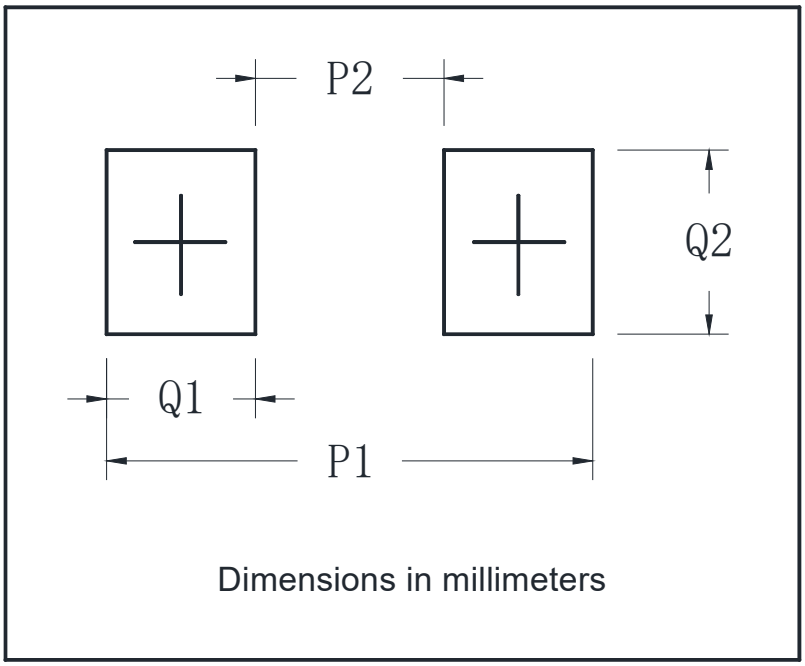


■ Outline Dimensions



DO-214AB (SMC)		
Dim	Min	Max
A	6.60	7.11
B	2.85	3.27
C	5.59	6.22
D	7.75	8.13
E	1.99	2.61
F	0.15	0.31
G	0.76	1.52
H	0.05	0.20

■ Suggested pad layout



DO-214AB (SMC)	
Dim	Min
P1	9.9
P2	3.84
Q1	3.03
Q2	3.82

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