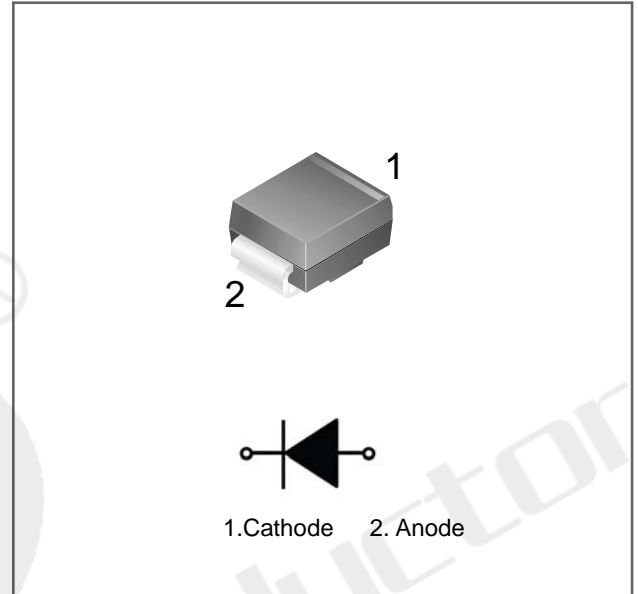




## Package outline

### DO-214AA(SMB)



Dimensions in inches and (millimeters)

## 3.0A Surface Mount Super Fast Rectifiers - 50-600V

### Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- High current capability.
- Superfast recovery time for switching mode application.
- High surge current capability.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirements.

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, JEDEC DO-214AA/SMB
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.093 gram

### Maximum ratings (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	Ambient temperature = $50^{\circ}\text{C}$	$I_o$			3.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	$I_{FSM}$			90	A
Reverse current	$V_R = V_{RRM} T_J = 25^{\circ}\text{C}$	$I_R$			5.0	$\mu\text{A}$
	$V_R = V_{RRM} T_J = 100^{\circ}\text{C}$				100	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		50		$^{\circ}\text{C}/\text{W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		45		pF
Storage temperature		$T_{STG}$	-55		+150	$^{\circ}\text{C}$

SYMBOLS	$V_{RRM}^{*1}$ (V)	$V_{RMS}^{*2}$ (V)	$V_R^{*3}$ (V)	$V_F^{*4}$ (V)	$T_{RR}^{*5}$ (nS)	Operating temperature $T_J$ , ( $^{\circ}\text{C}$ )
MURS305BG	50	35	50	1.00	35	-55 to +150
MURS310BG	100	70	100			
MURS315BG	150	105	150			
MURS320BG	200	140	200	1.25		
MURS330BG	300	210	300			
MURS340BG	400	280	400			
MURS350BG	500	350	500	1.68		
MURS360BG	600	420	600			

\*1 Repetitive peak reverse voltage

\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage@ $I_F=3.0\text{A}$

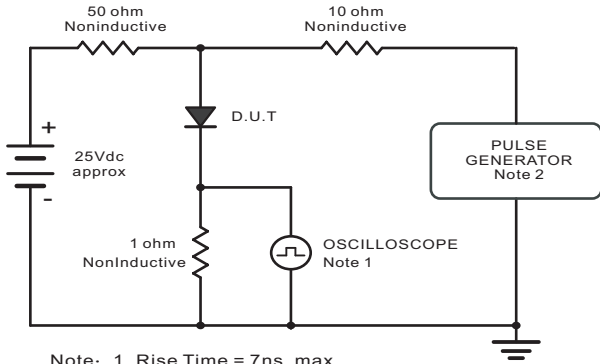
\*5 Maximum Reverse recovery time, note 1

Note 1. Reverse recovery time test condition,  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$



## Typical Characteristics

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.  
 Input Impedance = 1megohm, 22pF.  
 2. Rise Time = 10ns, max.  
 Source Impedance = 50 ohms.

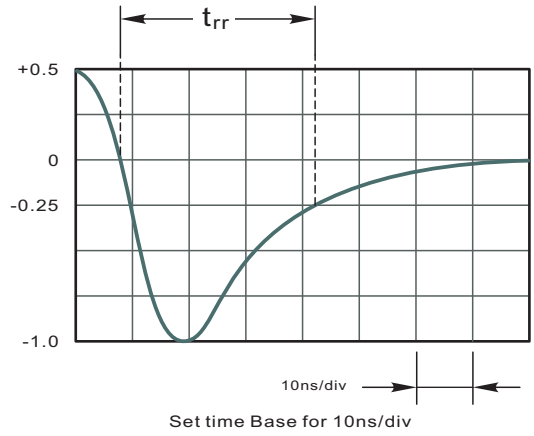


Fig.2 Maximum Average Forward Current Rating

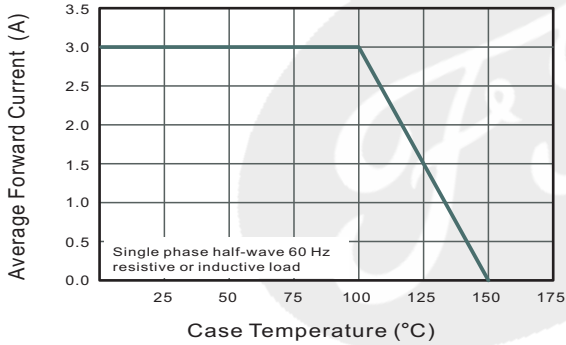


Fig.3 Typical Reverse Characteristics

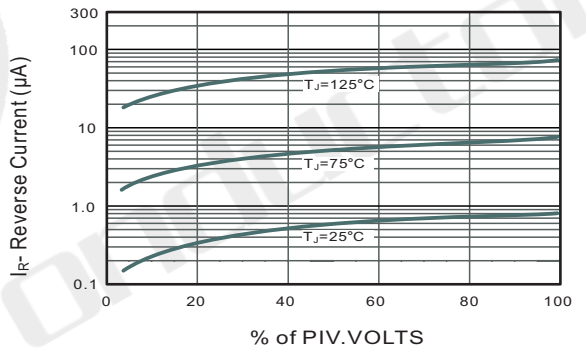


Fig.4 Typical Forward Characteristics

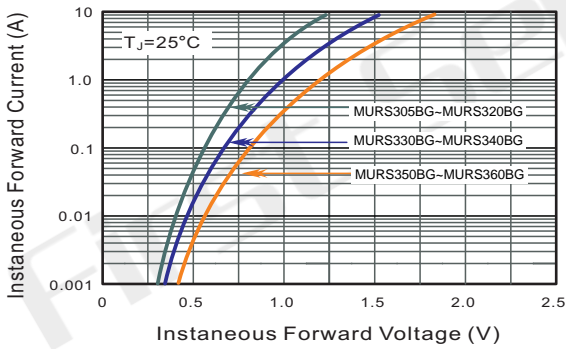


Fig.5 Typical Junction Capacitance

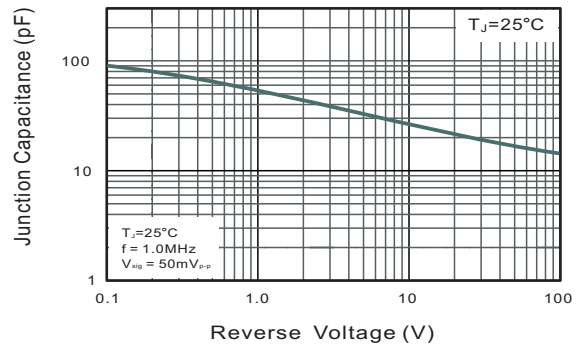
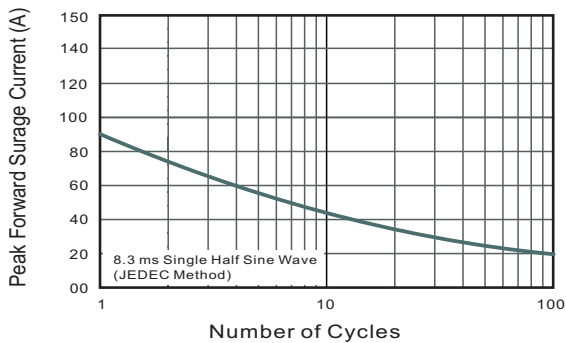


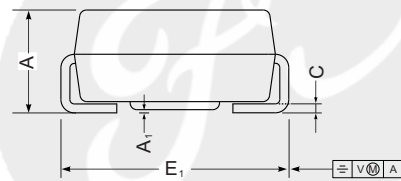
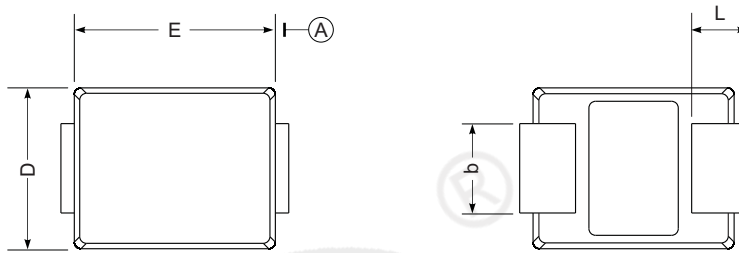
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current





Package Dimension

DO-214AA (SMB)



SMB mechanical data

UNIT		A	E	D	E <sub>1</sub>	A <sub>1</sub>	L	C	b
mm	max	2.44	4.70	3.94	5.59	0.20	1.5	0.305	2.2
	min	2.13	4.06	3.3	5.08	0.05	0.8	0.152	1.9
mil	max	96	185	155	220	7.9	59	12	87
	min	84	160	130	200	2.0	32	6	75

The recommended mounting pad size

