ES2AB THRU ES2JB

FUXINSEMI
INNOVATOR IN SEMICONDUCTOR

2.0A Surface Mount Super Fast Rectifiers-50-600V

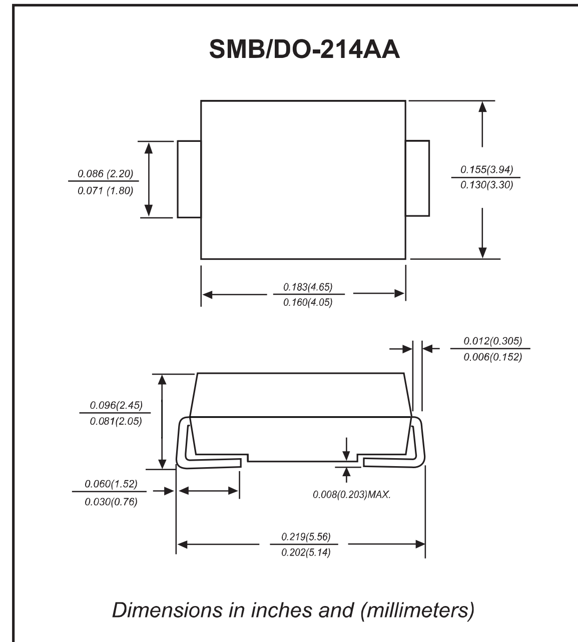
Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Super fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds at terminals
- Glass passivated chip junction
- Compliant to RoHS Directive 2011/65/EU

Mechanical data

- **Case**: JEDEC DO-214AA molded plastic body
- **Terminals**: Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

Package outline



Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_O			2.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			50	A
Reverse current	V_R = V_{RRM} T_A = 25°C	I_R			5.0	μA
	V_R = V_{RRM} T_A = 100°C				50	
Thermal resistance	Junction to ambient NOTE 1	$R_{\theta JA}$		40		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		60		pF
Storage temperature		T_{STG}	-65		+150	°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, (°C)
ES2AB	50	35	50	0.95	35	-55 to +150
ES2BB	100	70	100			
ES2CB	150	105	150			
ES2DB	200	140	200			
ES2EB	300	210	300	1.25		
ES2GB	400	280	400			
ES2JB	600	420	600	1.70		

*1 Repetitive peak reverse voltage

*2 RMS voltage

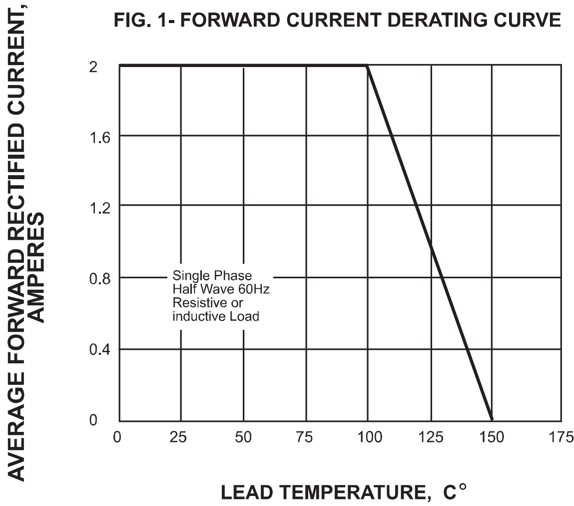
*3 Continuous reverse voltage

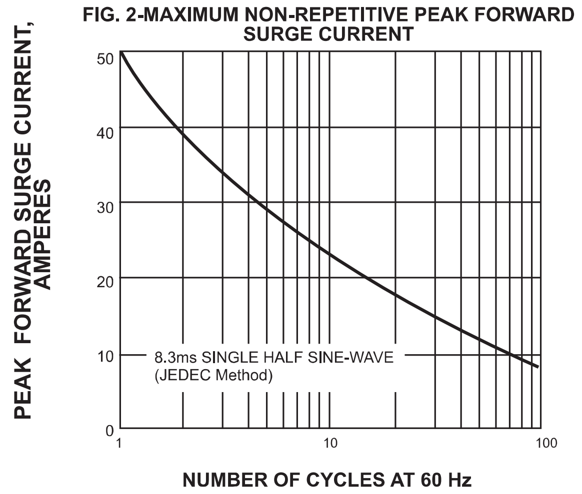
*4 Maximum forward voltage@I_F=2.0A

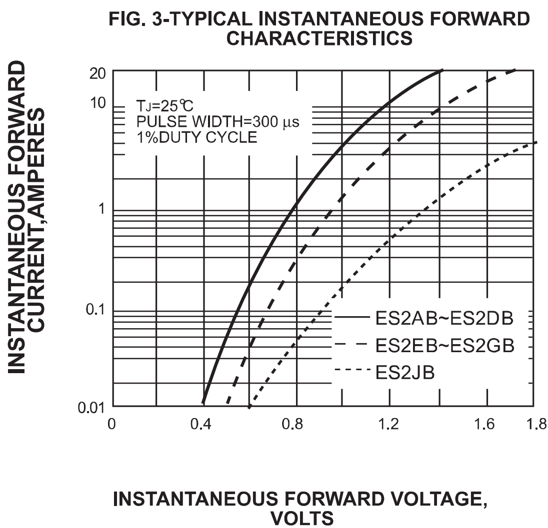
*5 Maximum Reverse recovery time, note 2

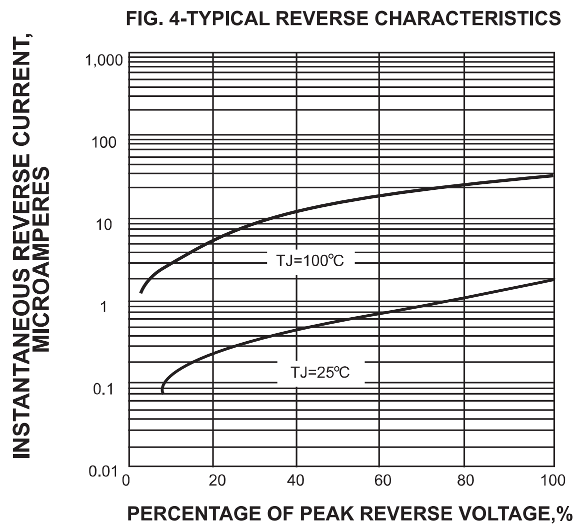
Note: 1.P.C.B. mounted with 0.2x0.2″(5.0x5.0mm) copper pad areas
2. Reverse recovery time test condition, I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

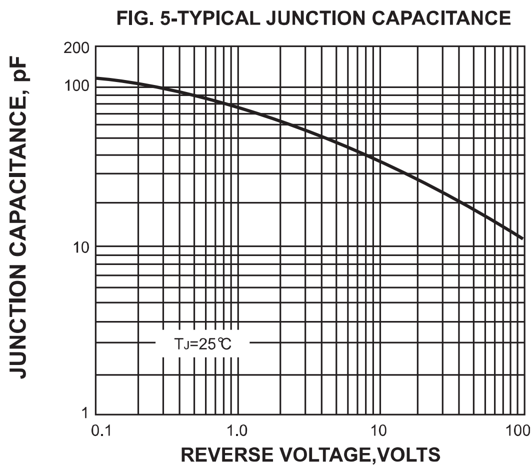
Rating and characteristic curves

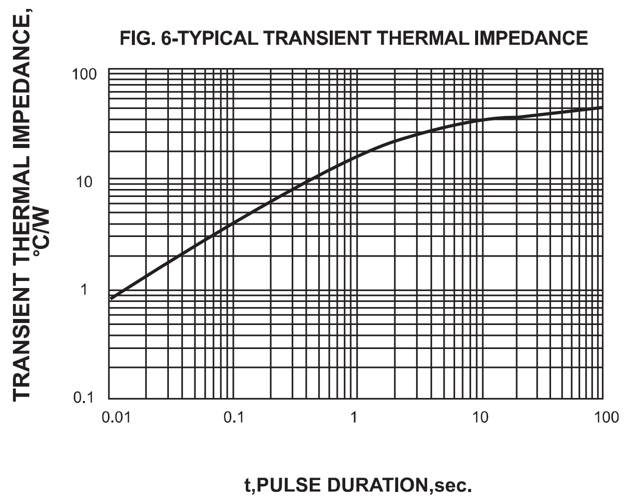












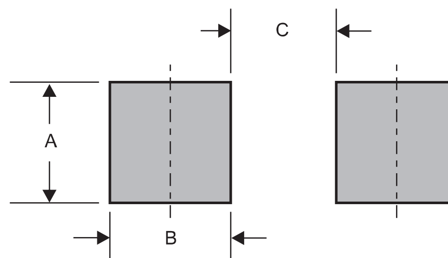
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode	1 2	1 2

Marking

Type number	Marking code	Example
ES2AB	ES2A	For Halogen Device
ES2BB	ES2B	
ES2CB	ES2C	ES2J
ES2DB	ES2D	
ES2EB	ES2E	
ES2GB	ES2G	
ES2JB	ES2J	Marking code

Suggested solder pad layout

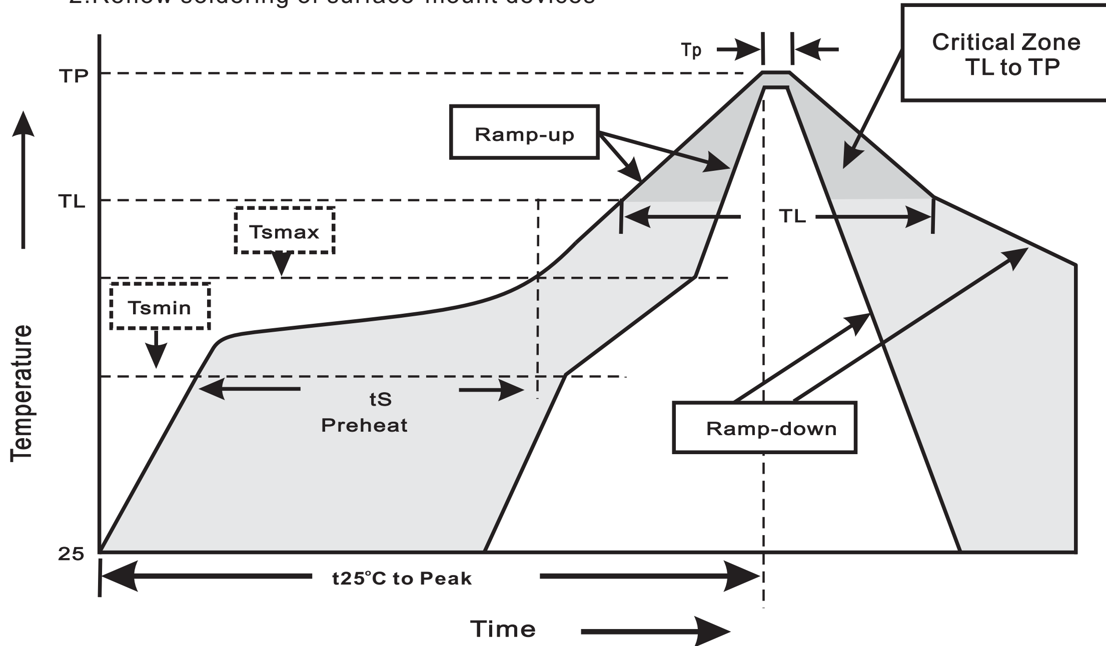


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMB	0.078 (2.00)	0.059 (1.50)	0.110 (2.80)

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes