



## ES3AB THRU ES3KB

VOLTAGE RANGE	50 to 800 Volts
CURRENT	3.0 Ampere



## Features

- Glass passivated chip:84mil
- Plastic package has underwrites laboratory flammability
- Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief, ideal for automated placement
- Glass Passivated chip junction
- High temperature soldering:250°C/10 second at terminals



DO-214AA (SMB J-Bend)

## Mechanical Data

- Case: JEDED DO-214AA molded plastic over glass passivated chip
- Terminals: Solder plated, Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.003ounce, 0.093 gram

## Maximum Ratings and Electrical Characteristics

- Ratings at 25°C ambient temperature unless otherwise specified.
- Single phase, half wave, 60Hz, resistive or inductive load.
- For capacitive load derate current by 20%.

TYPE NUMBER	SYMBOL	ES 3AB	ES 3BB	ES 3CB	ES 3DB	ES 3EB	ES 3GB	ES 3JB	ES 3KB	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	800	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	560	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	800	Volts
Maximum Average Forward Rectified Current At $T_A=100^\circ\text{C}$	$I_{(AV)}$	3.0								Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	80								Amps
Maximum Instantaneous Forward Voltage at 3.0A	$V_F$	0.95			1.25		1.70			Volts
Maximum DC Reverse Current at rated DC blocking voltage at	$T_A = 25^\circ\text{C}$	5.0								$\mu\text{A}$
	$T_A = 125^\circ\text{C}$	100								
Maximum Reverse Recovery Time <sup>(NOTE 3)</sup>	$T_{RR}$	35								nS
Typical Junction Capacitance <sup>(NOTE 2)</sup>	$C_J$	60			45					pF
Typical Thermal Resistance <sup>(NOTE 1)</sup>	$R_{\theta JA}$	75								$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	30								
Operating Junction Temperature	$T_J$	-55 to +150								$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150								$^\circ\text{C}$

## Notes:

1. Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B.with0.3×0.3"(8.0 × 8.0mm) copper pad areas.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V
3. Test conditions  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$



ES3AB THRU ES3KB

VOLTAGE RANGE 50 to 800 Volts  
CURRENT 3.0 Ampere

Ratings and Characteristic Curves ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

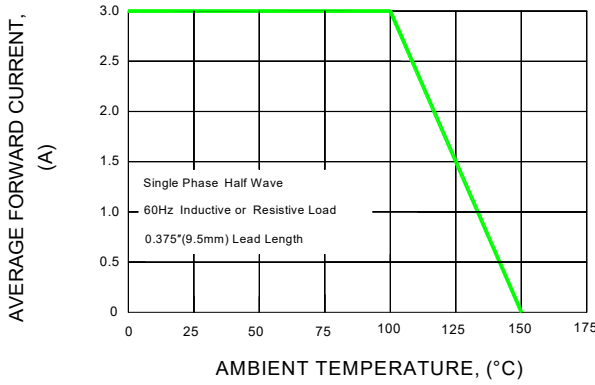


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

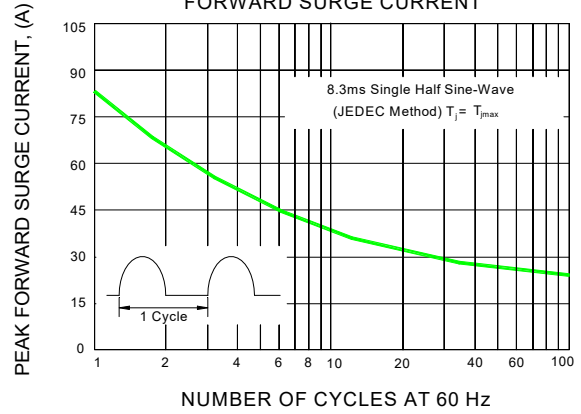


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

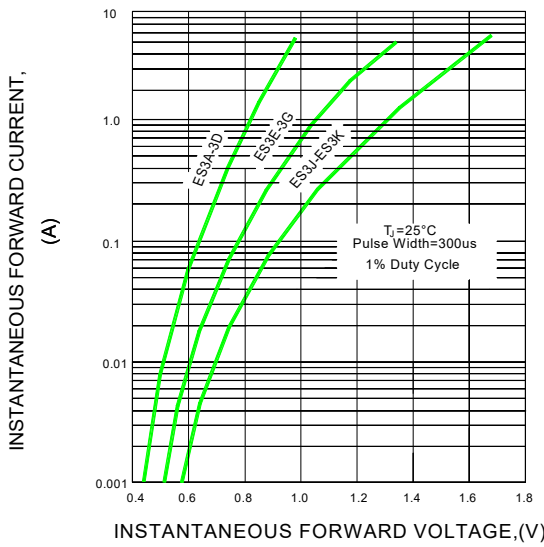


FIG.4-TYPICAL REVERSE CHARACTERISTICS

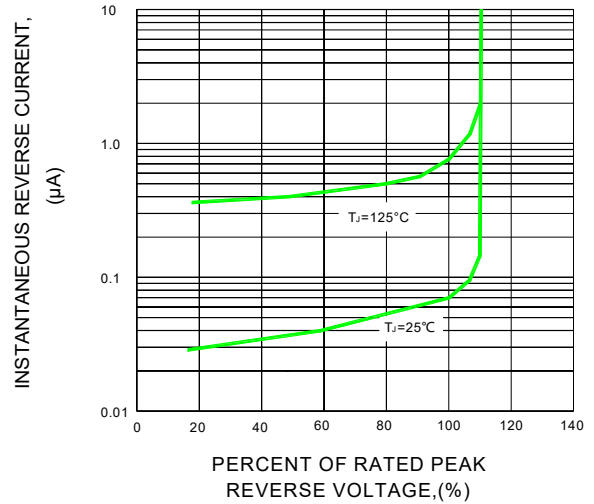


FIG.5-TYPICAL JUNCTION CAPACITANCE

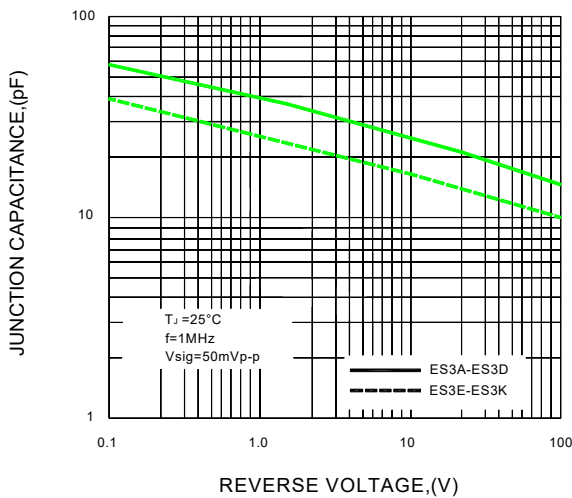
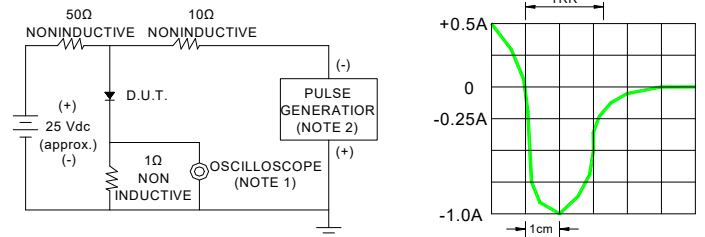


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

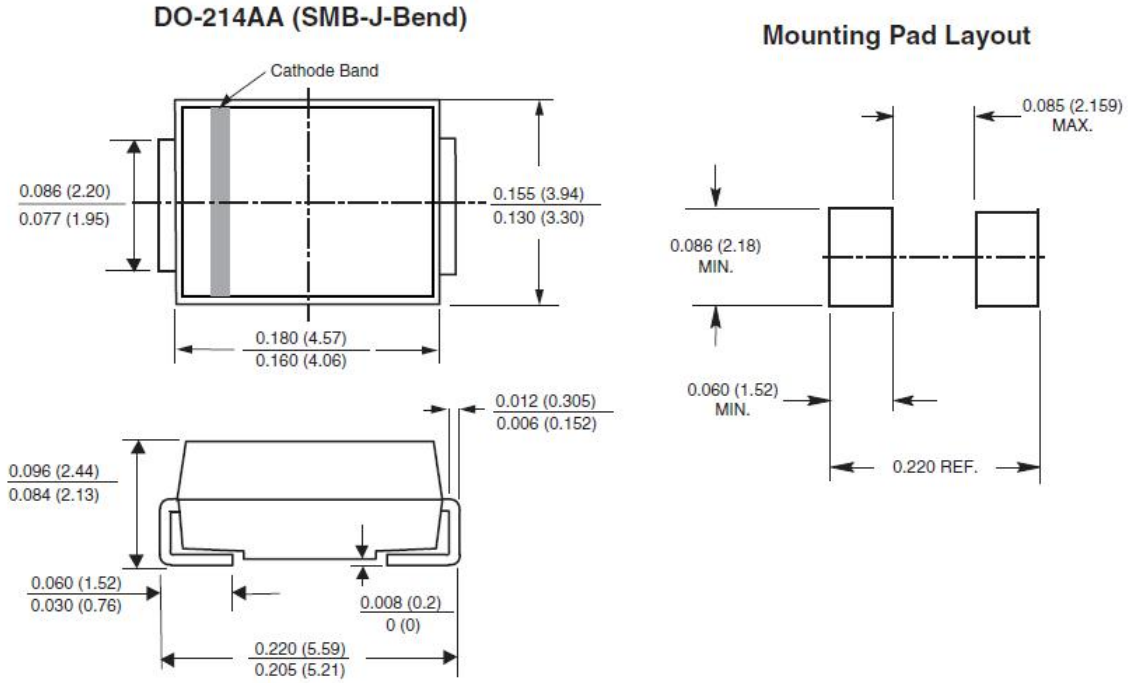


NOTES : 1. Rise Time=7ns max. Input Impedance= 1 megohm. 22pF  
2. Rise time=10ns max. Source Impedance= 50 ohms

SET TIME BASE FOR 50/100ns/cm



Package Outline Dimensions in inches (millimeters)

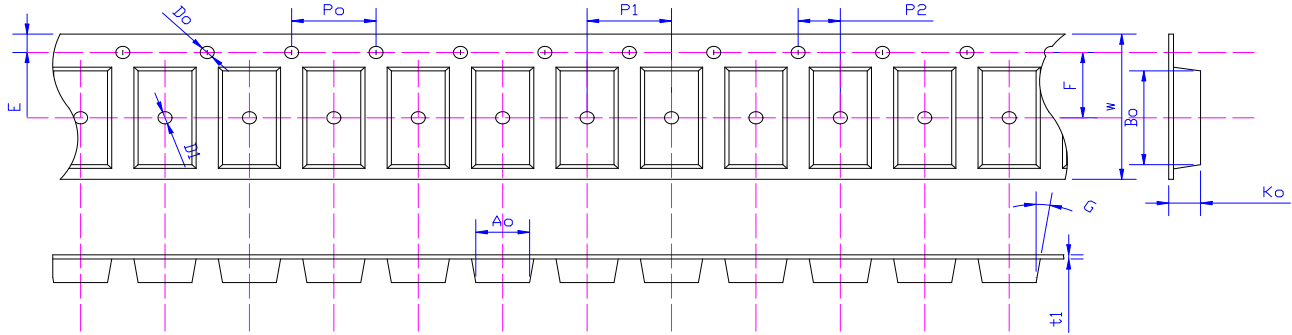




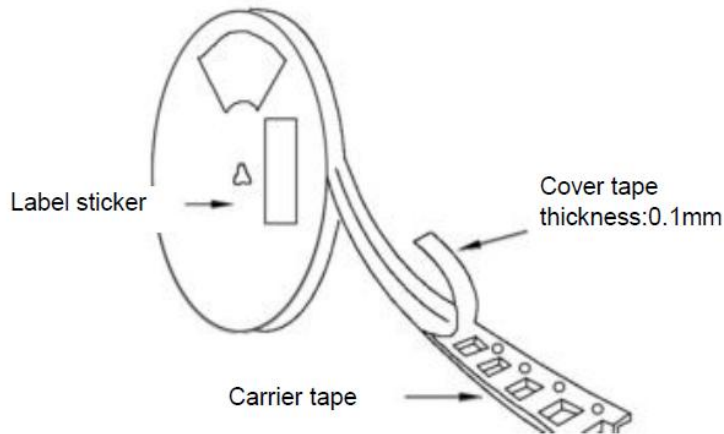
ES3AB THRU ES3KB

VOLTAGE RANGE 50 to 800 Volts  
CURRENT 3.0 Ampere

Package Reel Information



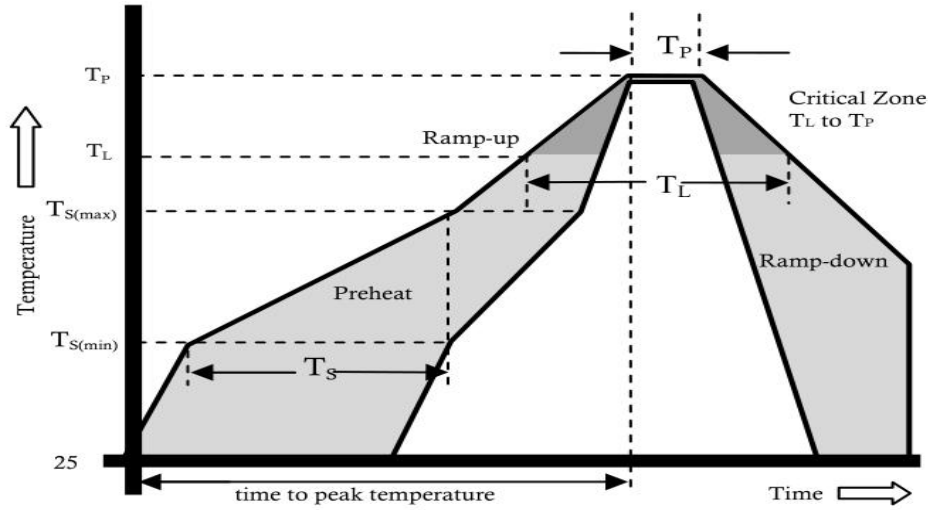
Specifications	Ao	Bo	Ko	Po	W	t1
SMB	3.77±0.10	5.70±0.10	2.67±0.10	4.00±0.1	12.0±0.05	0.23±0.02



DEVICE TYPE	Tape Width	13"Reel			07"Reel			
		Q'TY/REEL(pcs)	BOX/CARTOO	Q'TY/CARTON (pcs)	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTOO	Q'TY/CARTON (pcs)
SMB	12mm	3000	8	48000	NA	NA	NA	NA



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp( $T_L$ ) to peak)		3°C/sec. Max.
$T_S(max)$ to $T_L$ - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_L$ )(Liquidus)	+217°C
	Temperature ( $T_I$ )	60-150 secs.
Peak Temp ( $T_p$ )		+(260+0/-5)°C
Time within 5°C of actual Peak Temp ( $T_p$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_p$ )		8 min. Max.
Do not exceed		+260°C



---

ES3AB THRU ES3KB

VOLTAGE RANGE	50 to 800 Volts
CURRENT	3.0 Ampere

---

## Disclaimer

The information presented in this document is for reference only. Chongqing changjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Changjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.czlangjie.com](http://www.czlangjie.com) , or consult your nearest Langjie's sales office for further assistance.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Rectifiers](#) category:*

*Click to view products by [LangJie](#) manufacturer:*

Other Similar products are found below :

[70HFR40](#) [FR105 R0](#) [RL252-TP](#) [1N5397](#) [1N4005-TR](#) [1N4007-BP](#) [UFS120Je3/TR13](#) [20ETS12S](#) [RRE02VS6SGTR](#) [MS306](#) [A1N5404G-G](#)  
[CRF02\(T5L,TEMQ\)](#) [ACGRB207-HF](#) [CLH07\(TE16L,Q\)](#) [CLH03\(TE16L,Q\)](#) [1N5395-TP](#) [UES1302](#) [ACGRC307-HF](#) [ACEFC304-HF](#) [DZ-](#)  
[1380](#) [85HFR60](#) [40HFR60](#) [70HF120](#) [85HFR80](#) [SCF7500](#) [SM100](#) [ACGRA4001-HF](#) [SKN70/08](#) [NTE5819](#) [NTE5827](#) [NTE5828](#) [NTE5911](#)  
[NTE5915](#) [NTE6104](#) [NTE6163](#) [NTE6164](#) [NTE6165](#) [NTE6364](#) [TSD3G](#) [SET130312](#) [NRVUS110VT3G](#) [UES1106](#) [UES1306](#)  
[NRVUS240VT3G](#) [D5FE60-5063](#) [R4000GPS-TP](#) [D4015L56TP](#) [UES1306HR2](#) [FX20K120](#) [D20XB60-7101](#)