

# ES3A THRU ES3J

## Super Fast Recovery Rectifier Diode

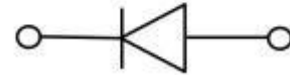
### Features

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



### Typical Application

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



### Mechanical Data

- Package: DO-214AB(SMC)  
Molding compound meets UL 94 V-0 flammability rating,RoHS-compliant
- 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	Conditions	ES3							
				A	B	C	D	F	G	H	J
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		50	100	150	200	300	400	500	600
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, $T_L=100^\circ\text{C}$	3.0							
Surge(Nonrepetitive)Forward Current	$I_{FSM}$	A	60HZ Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	100							
Storage Temperature	$T_{stg}$	°C		-55 ~ +150							
Junction Temperature	$T_j$	°C		-55 ~ +150							

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

PARAMETER	Symbol	Unit	Conditions	ES3							
				A	B	C	D	F	G	H	J
Peak Forward Voltage	$V_{FM}$	V	$I_F=3.0A$	0.95			1.3		1.7		
Peak Reverse Current	$I_{RRM1}$	$\mu\text{A}$	$V_{RM}=V_{RRM}$	$T_a=25^\circ\text{C}$							
	$I_{RRM2}$			$T_a=125^\circ\text{C}$							
Maximum reverse recovery time	$T_{rr}$	ns	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	35							
Thermal Resistance(Typical)	$R_{\theta J-A}$	°C/W	Between junction and ambient	47 <sup>1)</sup>							
	$R_{\theta J-L}$		Between junction and terminal	12 <sup>1)</sup>							

Notes:

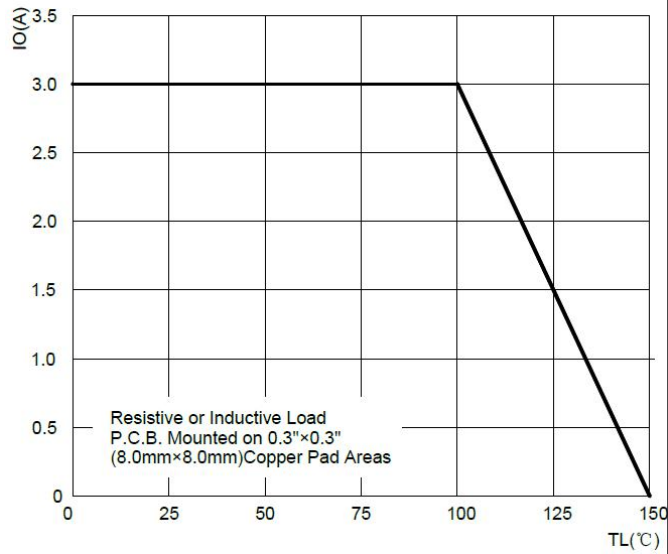
<sup>1)</sup> Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas



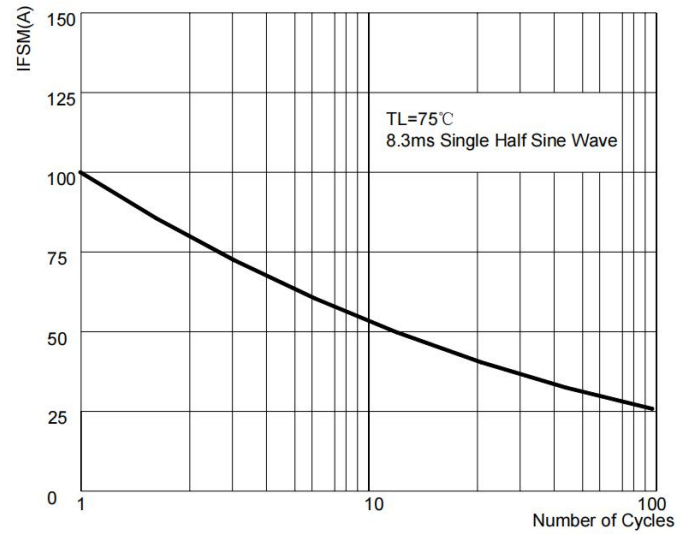
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### ■ Characteristics (Typical)

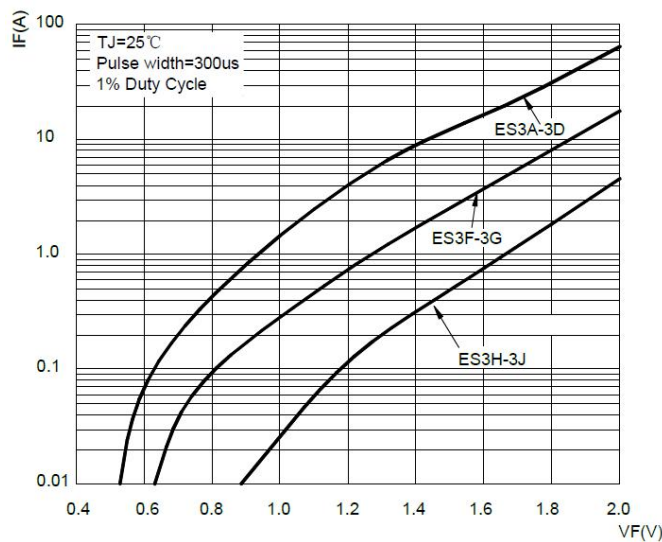
**FIG1: Forward Current Derating Curve**



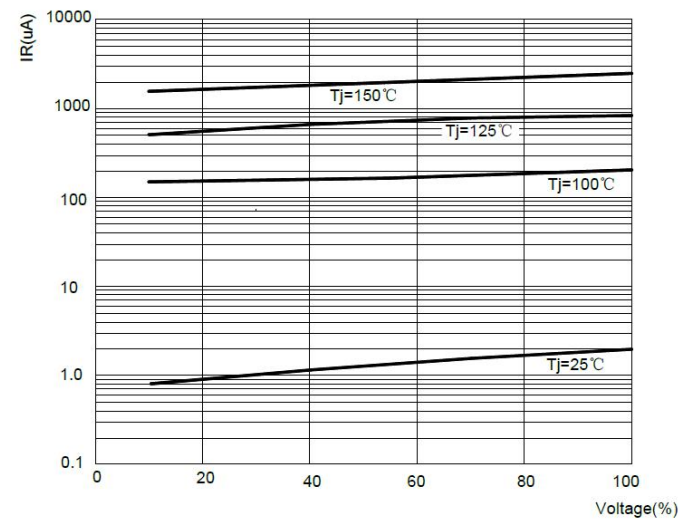
**FIG2: Maximum Non-Repetitive Forward Surge Current**



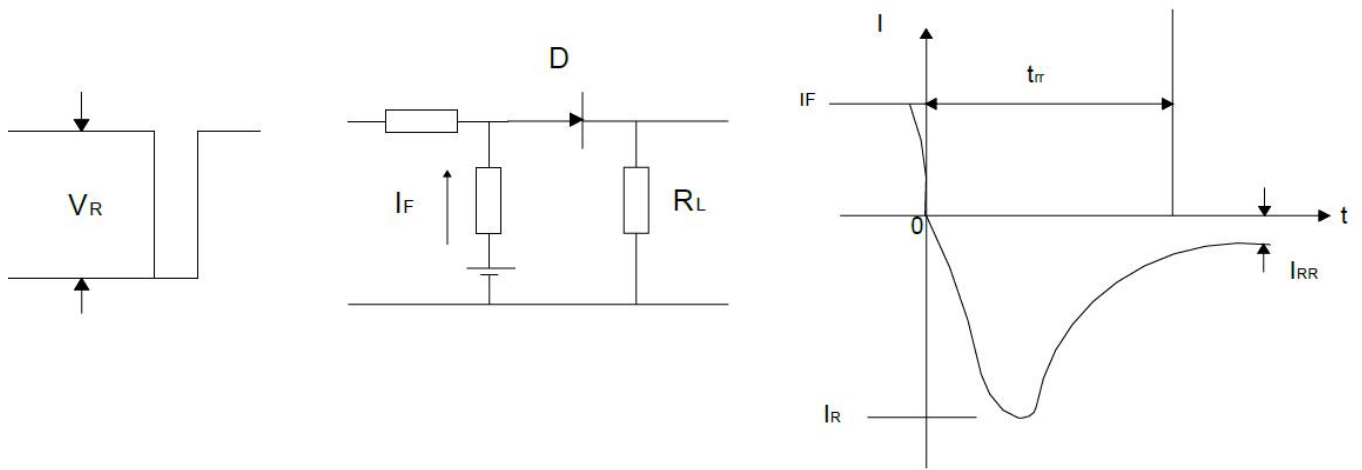
**FIG3: Typical Forward Characteristics**



**FIG4: Typical Reverse Characteristics**



**FIG5: Diagram of circuit and Testing wave form of reverse recovery time**



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### Ordering Information (Example)

PREFERED	PACKAGE CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES3A~ES3J	DO-214AB(SMC)	3000	6000	42000	13" reel
ES3A~ES3J	DO-214AB(SMC)	500	1500	15000	7" reel

### Outline Dimensions

