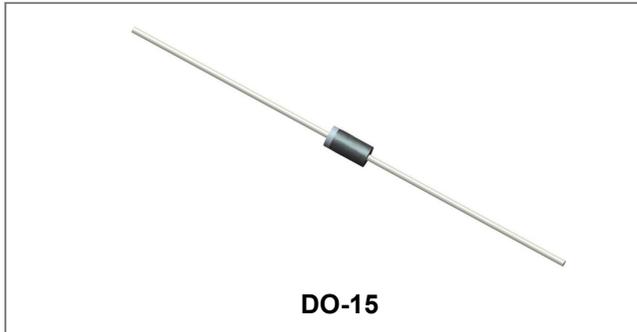


## ESF21G-ESF28G SUPER FAST RECTIFIER



### Features

- Super fast switching for high efficiency
- Low leakage current
- High forward surge capability
- Solder dip 260 ° C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: JEDEC DO-15 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.014 ounce, 0.40 grams

### Maximum Ratings and Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

Characteristic	Symbol	ESF 21G	ESF 22G	ESF 23G	ESF 24G	ESF 25G	ESF 26G	ESF 28G	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum average forward rectified current 0.375"(9.5mm) lead length at $T_A=55^{\circ}\text{C}$	$I_{(AV)}$	2.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50							A
Maximum instantaneous forward voltage at 2.0A	$V_F$	0.95			1.25		1.7		V
Maximum DC reverse current $T_A=25^{\circ}\text{C}$ at rated DC blocking voltage $T_A=100^{\circ}\text{C}$	$I_R$	5.0			50.0				$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	35							ns
Typical Junction Capacitance (Note 2)	$C_J$	60.0			30.0				pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	50.0							$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	-65 to +175							$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175							$^{\circ}\text{C}$

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

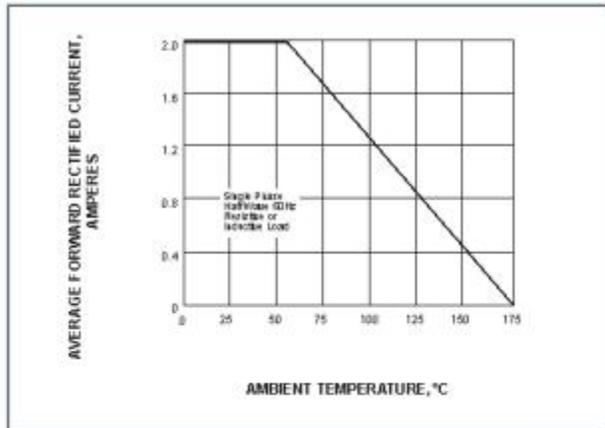
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. Thermal resistance from junction to ambient at 0.375"(9.5mm) lead length, P.C.B mounted.

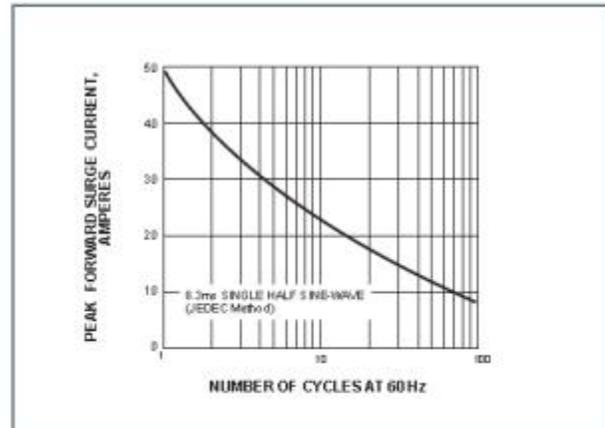
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**Ratings and Characteristics Curves**

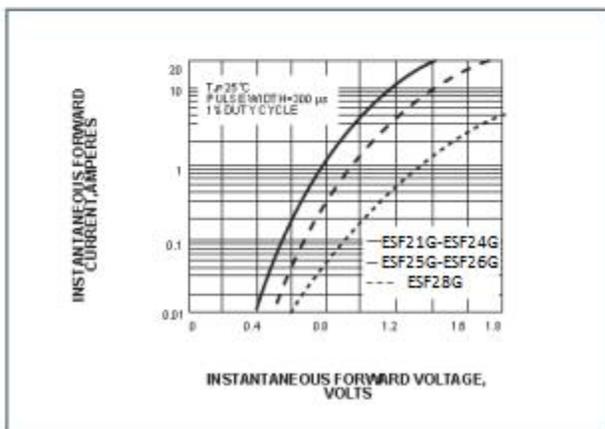
**FIG. 1- FORWARD CURRENT DERATING CURVE**



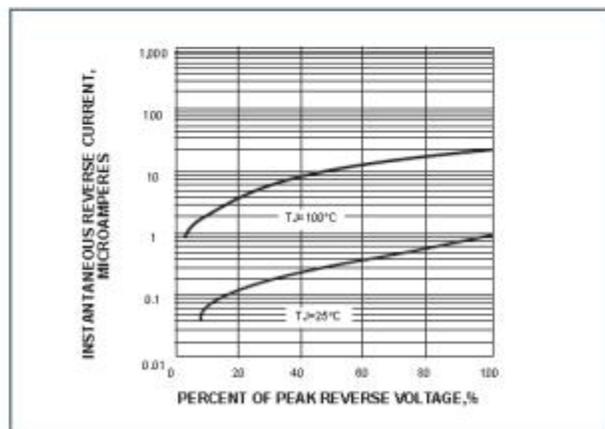
**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



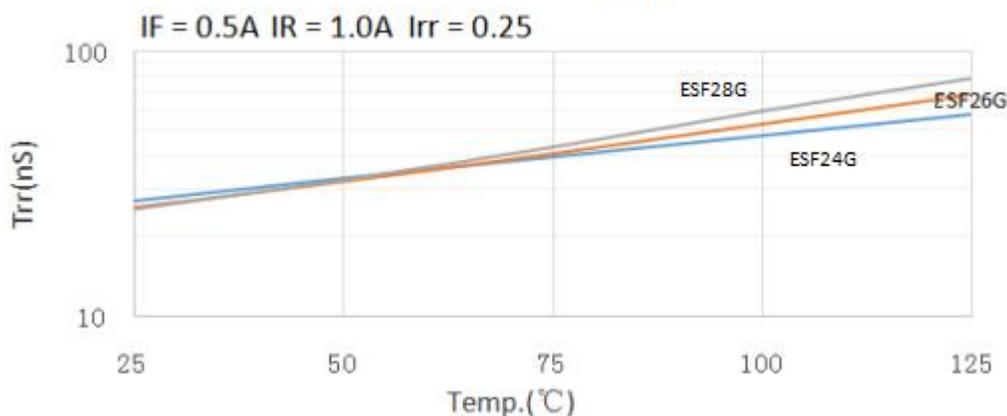
**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



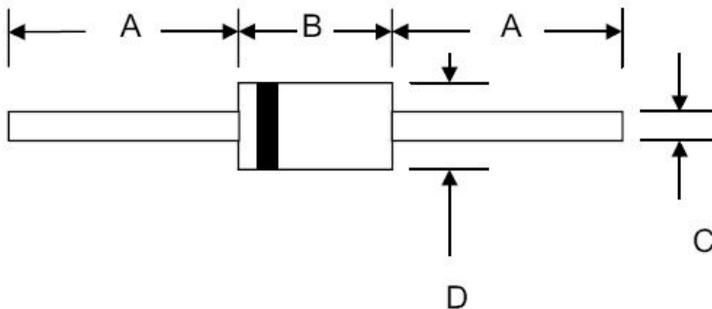
**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



**Fig.5 Trr & Temp.**



**Mechanical Dimensions DO-15**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	5.5	7.62	0.217	0.300
C	0.7	0.9	0.028	0.034
D	2.6	3.6	0.104	0.140

**Ordering Information**

Device	Package	Shipping
ESF21G THRU ESF28G	DO-15 (Pb-Free)	3000pcs /tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**

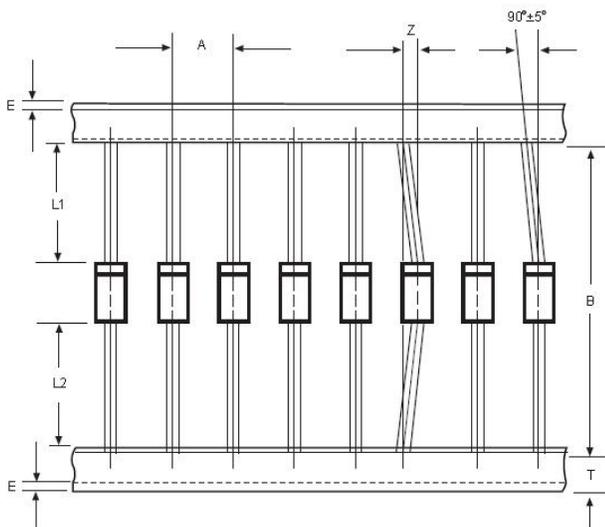


Where XXXXX is YYWWL

ESF21G = Part Name  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Carrier Tape Specification DO-15**



SYMBOL	Millimeters	
	Min.	Max.
A	4.50	5.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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