

Features

- Halogen Free. "Green" Device (Note 1)
- Low Profile Package
- Super Fast Recovery Time
- Glass Passivated Chip Junction
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value				Unit
		ES1DFL	ES1GFL	ES1JFL	ES1KFL	
Peak Repetitive Reverse Voltage	V _{RRM}	200	400	600	800	V
Working Peak Reverse Voltage	V _{RWM}					
DC Blocking Voltage	V _R					
RMS Reverse Voltage	V _{RMS}	140	280	420	560	V
Average Rectified Forward Current @ T _L =120°C	I _{F(AV)}	1				A
Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave	I _{FSM}	30				A
Non-Repetitive Peak Surge Current @1ms Half Sine Wave		60				
Current Squared Time @1ms≤t≤8.3ms	I ² t	3.735				A ² s

Marking Code

Part Number	Marking Code
ES1DFL	ES1D
ES1GFL	ES1G
ES1JFL	ES1J
ES1KFL	ES1K

Internal Structure

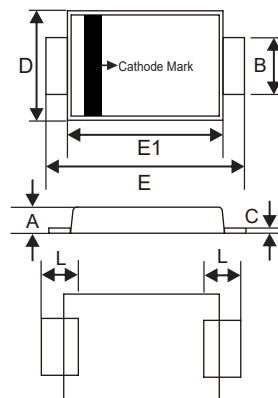
Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode	 XXXX = Marking Code	
2	Anode		

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. High temperature solder exemption applied, see EU directive annex 7a.

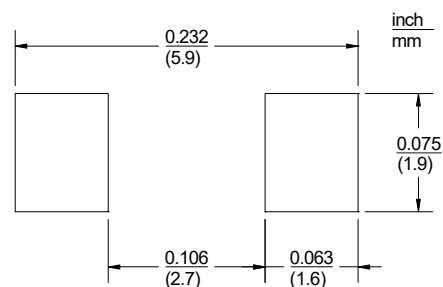
1 Amp Super Fast Recovery Rectifier 200 to 800 Volts

DO-221AC(SMA-FL)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.049	0.90	1.25	
B	0.049	0.065	1.25	1.65	
C	0.004	0.016	0.10	0.40	
D	0.089	0.116	2.25	2.95	
E	0.173	0.220	4.40	5.60	
E1	0.126	0.181	3.20	4.60	
L	0.020	0.059	0.50	1.50	

Suggested Solder Pad Layout



Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		25		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		75		°C/W

Note:

1. Mounted on P.C.B. with 5mm*5mm copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage ES1DFL ES1GFL ES1JFL ES1KFL	V_F	$I_F=1A; T_J=25^{\circ}C$			1.00 1.30 1.70 1.85	V
Reverse Current	I_R	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 100	μA
Reverse Recovery Time	t_{rr}	$I_F=0.5A; I_R=1.0A;$ $I_{rr}=0.25A; T_J=25^{\circ}C$			35	ns
Junction Capacitance ES1DFL ES1GFL ES1JFL~ES1KFL	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		20 12 8		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

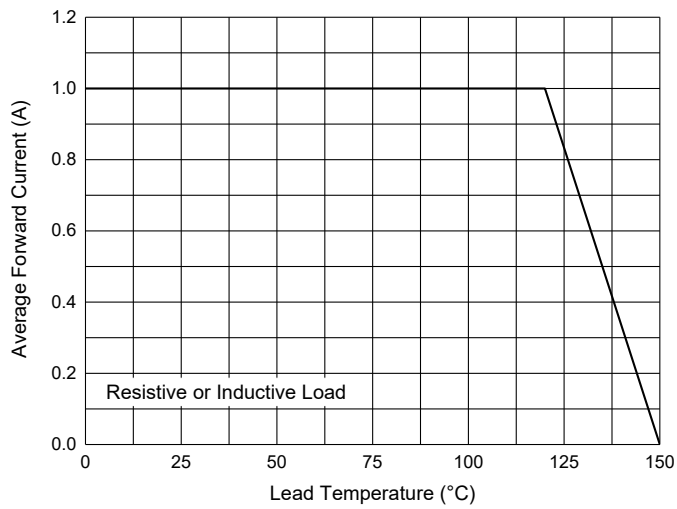


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

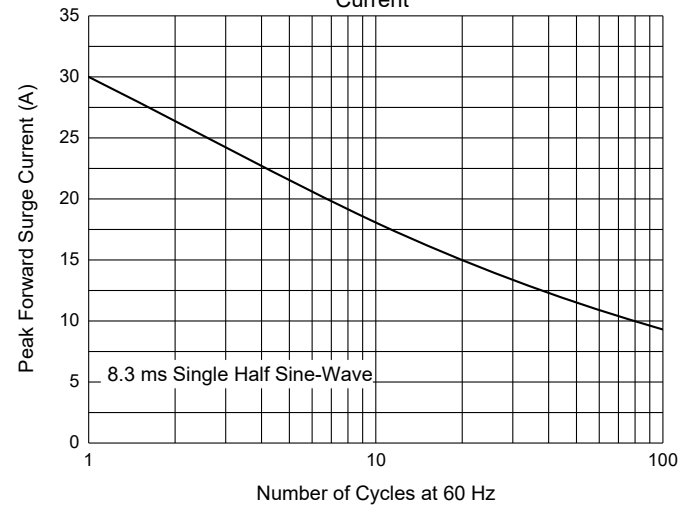


Fig. 3 - Typical Forward Characteristics

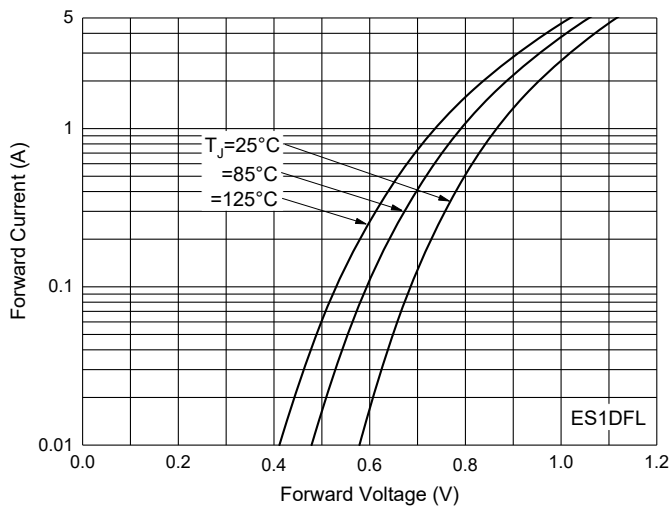


Fig. 4 - Typical Forward Characteristics

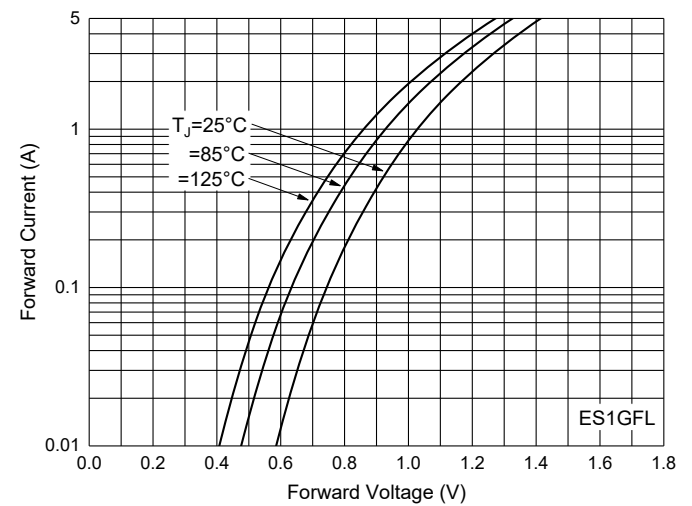


Fig. 5 - Typical Forward Characteristics

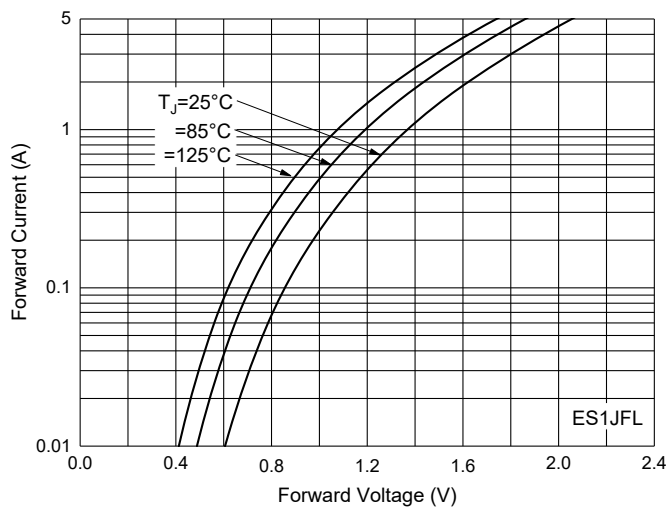
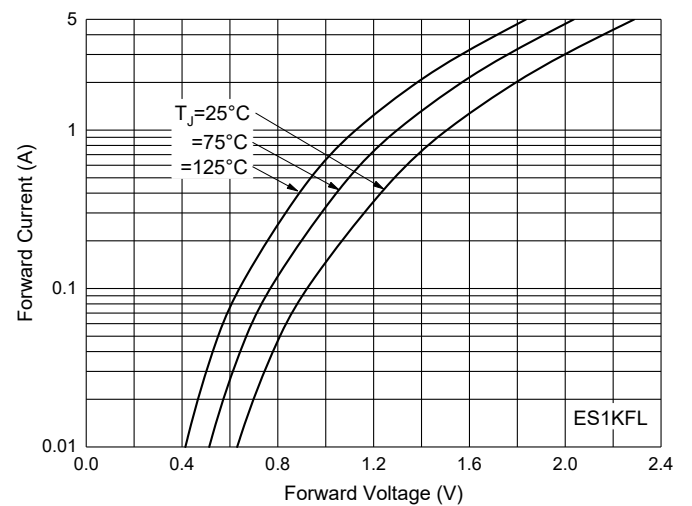


Fig. 6 - Typical Forward Characteristics



Curve Characteristics

Fig. 7 - Typical Reverse Leakage Characteristics

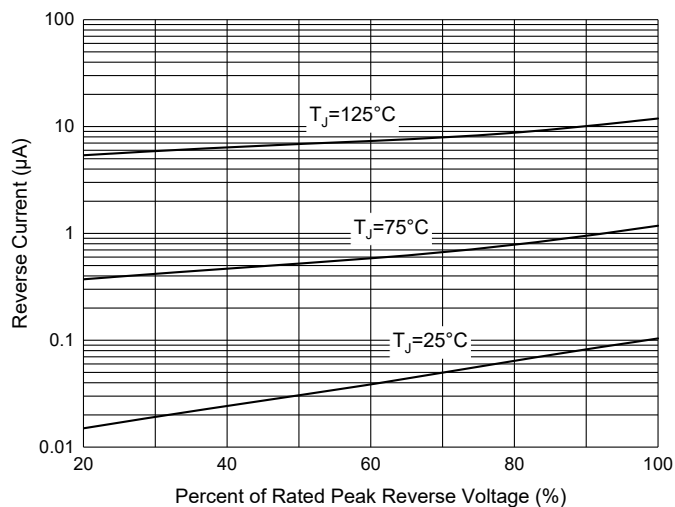
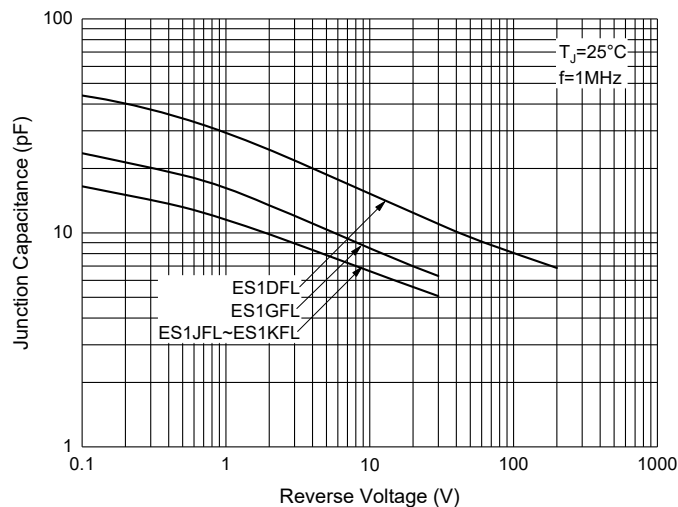


Fig. 8 - Typical Capacitance Characteristics



Ordering Information

Device	Packing
Part Number -TP	Tape&Reel:10Kpcs/Reel

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