

SuperDiode – 1 A, 50~600V Surface Mount Super Fast Rectifier



1. Features

- Flammability Classification 94V-0
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250 °C/10 seconds at terminals

2. Mechanical Data

- Case: JEDEC DO-214AC molded plastic body
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

3. Marking and Circuit

Marking	Circuit
	

4. Specification

Absolute Maximum Rating & Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameters	Symbol	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	Unit
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 at $T_L = 55^\circ C$	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0							A
Maximum instantaneous forward voltage at 1.0A	$V_F$	0.95				1.25		1.70	V
Maximum DC reverse current at rated DC blocking voltage	$I_R$	$T_A = 25^\circ C$							uA
		$T_A = 100^\circ C$							
Maximum reverse recovery time (NOTE 1)	$T_{RR}$	35							ns
Typical junction capacitance (NOTE 2)	$C_J$	15.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	60.0							$^\circ C/W$
Operating junction temperature range	$T_J$	-55~175							$^\circ C$
Storage temperature range	$T_{STG}$	-55~175							$^\circ C$

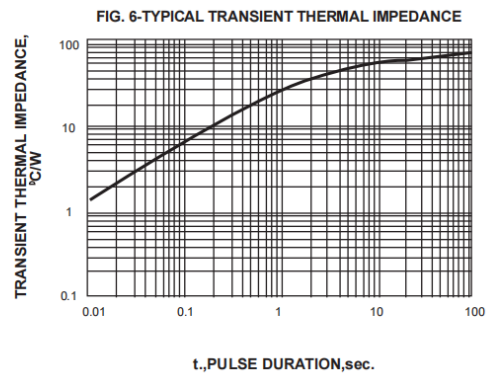
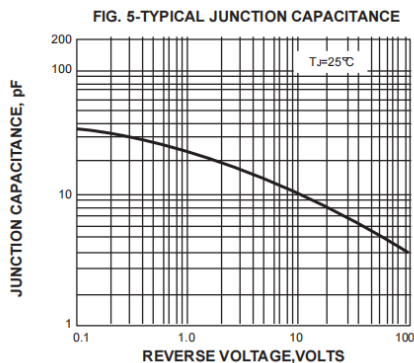
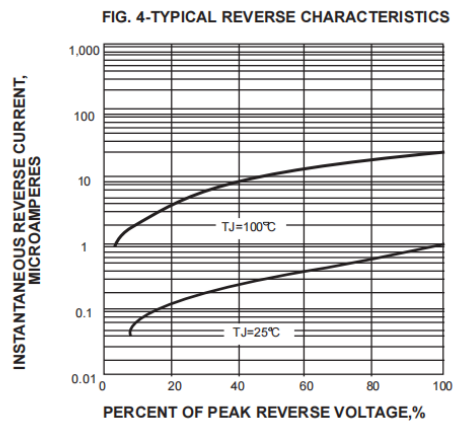
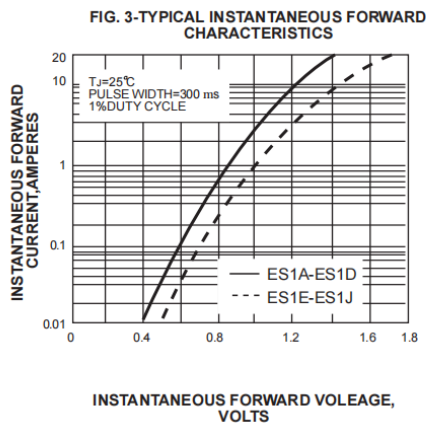
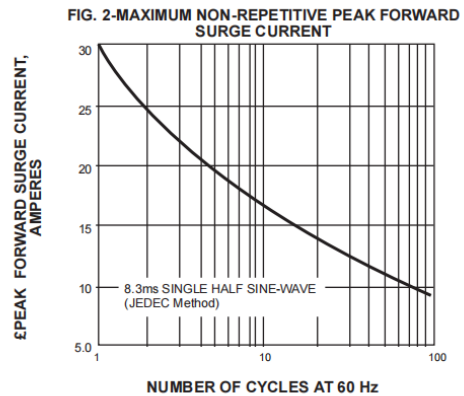
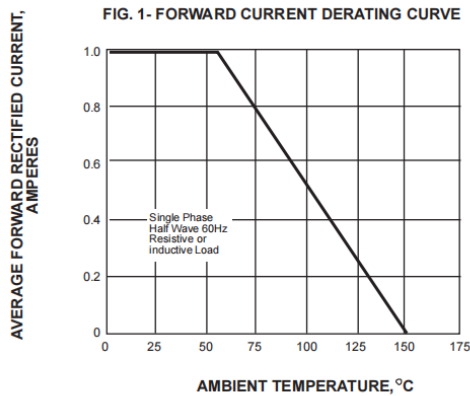
# ES1A Thru ES1J

Rev-1.1

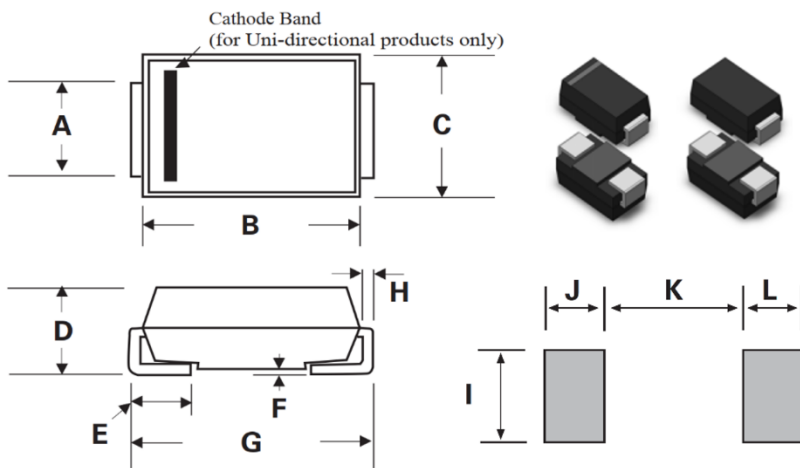
Note:

- 1.Reverse recovery condition  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$
- 2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
- 3.PCB mounted on 0.2\*0.2" (5.0\*5.0mm) copper pad area.

## 5. Typical Characteristic



6. Dimension (SMA/DO-214AC)



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.049	0.065	1.25	1.65
B	0.157	0.177	3.99	4.5
C	0.1	0.11	2.54	2.79
D	0.078	0.09	1.98	2.29
E	0.03	0.06	0.78	1.52
F	-	0.008	-	0.203
G	0.194	0.208	4.93	5.28
H	0.006	0.012	0.152	0.305
I	0.07	-	1.8	-
J	0.082	-	2.1	-
K	-	0.09	-	2.3
L	0.082	-	2.1	-

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