

## 2.5A,50-1000V Fast Recovery Rectifiers

### Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- For general purpose applications
- Moisture sensitivity: level 1, per J-STD-020
- For fast switching and low logic level applications
- High temperature soldering guaranteed: 260°C/10 seconds



R-3

### Applications

- Small battery charger, Power supplies

### Maximum Ratings & Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	FR251	FR252	FR253	FR254	FR255	FR255-STR	FR256	FR257	FR257-STR	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	600	800	1000	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	420	560	700	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	600	800	1000	1000	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	2.5									A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	125									A
Operating junction temperature range	T <sub>J</sub>	-55 to +135									°C
Storage temperature range	T <sub>STG</sub>	-55 to +150									°C

### Thermal-Mechanical Specifications (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	62	°C /W
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	28	°C /W
Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	19	°C /W



## Electrical Specifications (T<sub>A</sub>=25°C unless otherwise noted)

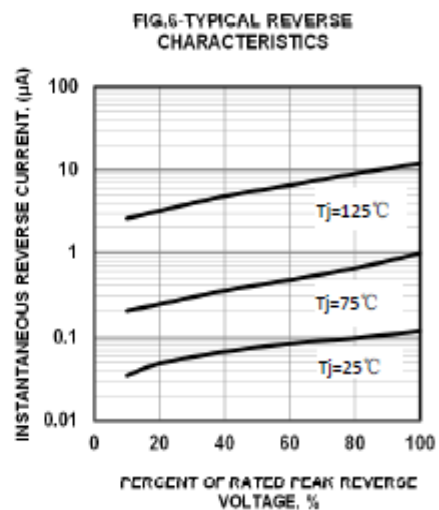
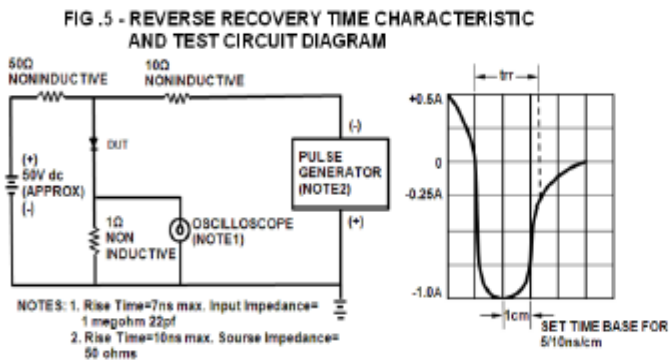
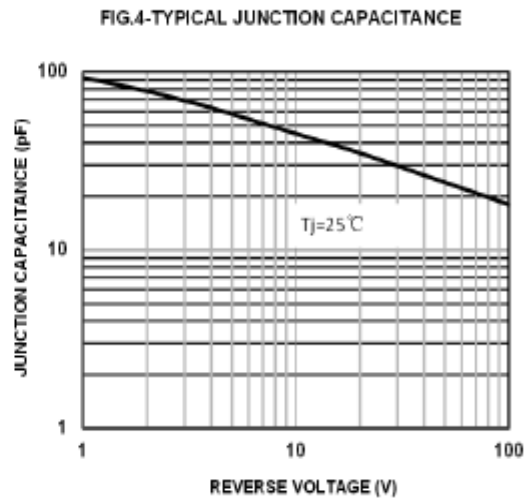
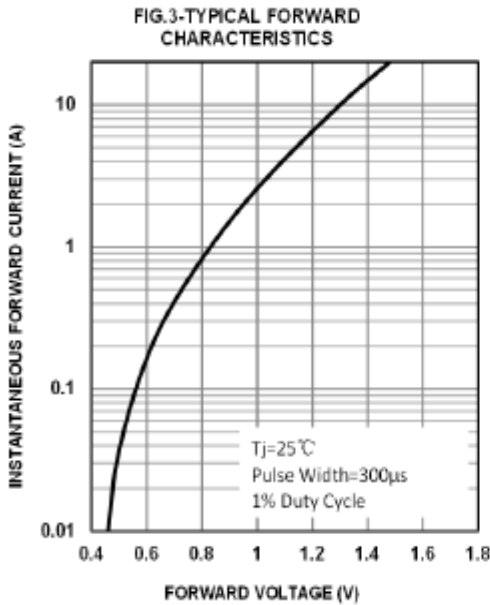
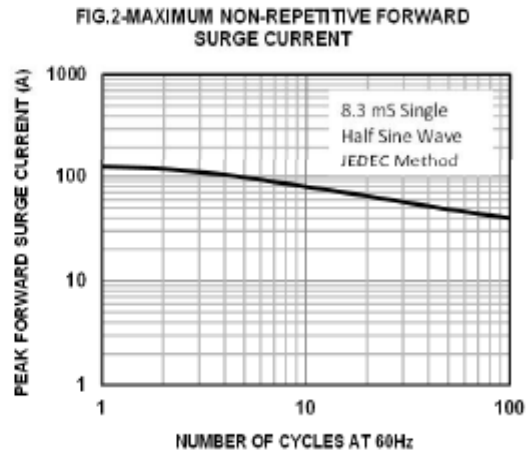
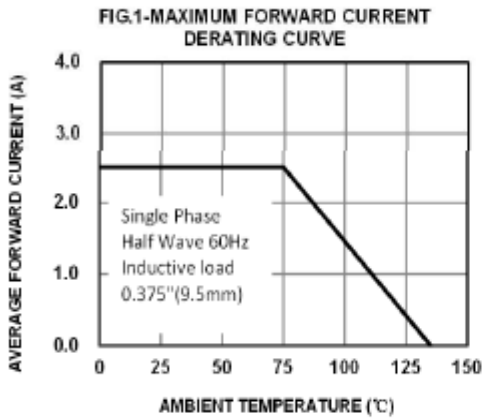
Parameter	Symbol	Test Conditions	FR251	FR252	FR253	FR254	FR255	FR255-STR	FR256	FR257	FR257-STR	Unit
Forward Drop Voltage	V <sub>F</sub>	I <sub>F</sub> =2.5A	1.30									V
Reverse leakage current @V <sub>R</sub>	I <sub>R</sub>	T <sub>J</sub> =25°C	5									uA
		T <sub>J</sub> =125°C	100									
Typical junction capacitance	C <sub>J</sub>	4.0 V 1 MHz	55									pF
Maximum reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>RR</sub> =0.25A		150			250	150	500		250	nS

Note:

- Valid provided that leads at a distance of 9.5 mm from case are kept at ambient temperature.

## Ratings and Characteristics Curves

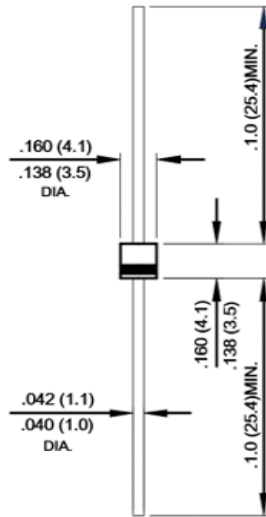
( $T_A = 25^\circ\text{C}$  unless otherwise noted)



## Package Outline Dimensions

in inches (millimeters)

### R-3



Dimensions in inches and (millimeters)

## Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2024.02.28	Modify document format

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