

1A,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-1

Applications

- Small battery charger, Power supplies

Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted)									
Parameter	Symbol	1F1	1F2	1F3	1F4	1F5	1F6	1F7	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	I _{F(AV)}	1							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	30							A
Operating junction temperature range	T _J	-55 to +135							°C
Storage temperature range	T _{STG}	-55 to +150							°C

Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	75	°C / W
Thermal Resistance, Junction to Case	R _{θJC}	36	°C / W
Thermal Resistance, Junction to Lead	R _{θJL}	25	°C / W

Electrical Specifications (T _A =25°C unless otherwise noted)											
Parameter	Symbol	Test Conditions	1F1	1F2	1F3	1F4	1F5	1F6	1F7	Unit	
Forward Drop Voltage	V _F	I _F =1A	1.30							V	
Reverse leakage current @V _R	I _R	T _J =25°C	5							uA	
		T _J =125°C	100								
Typical junction capacitance	C _J	4.0 V 1 MHz	15							pF	
Maximum reverse recovery time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	150				250		500		nS

Note:

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

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

FIG.1-MAXIMUM FORWARD CURRENT DERATING CURVE

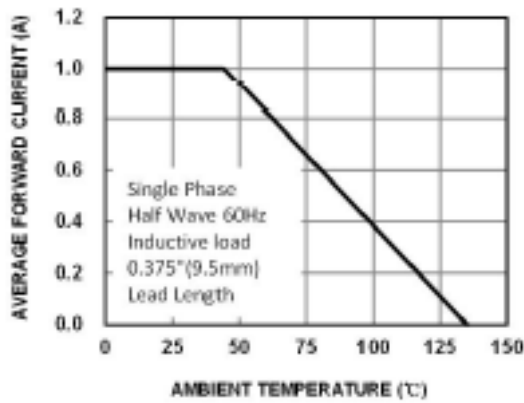


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

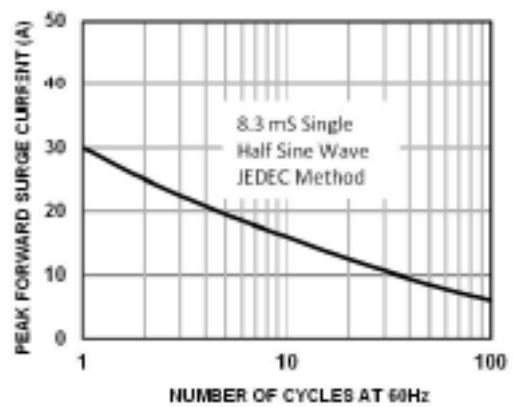


FIG.3-TYPICAL FORWARD CHARACTERISTICS

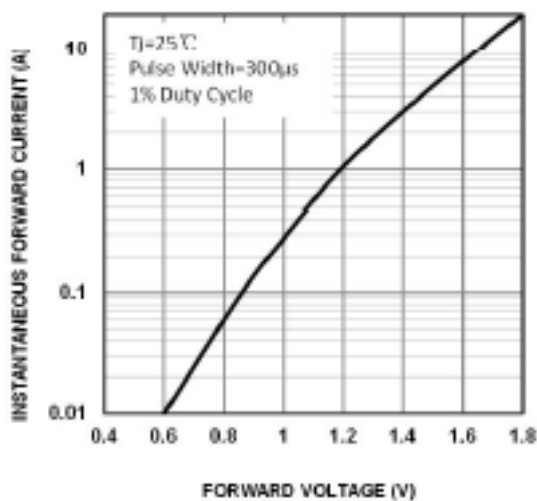


FIG.4-TYPICAL JUNCTION CAPACITANCE

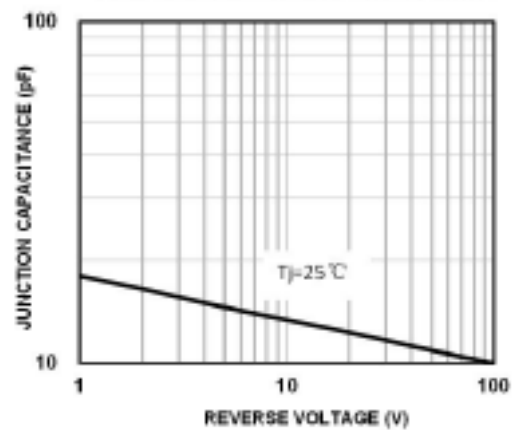


FIG.5 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

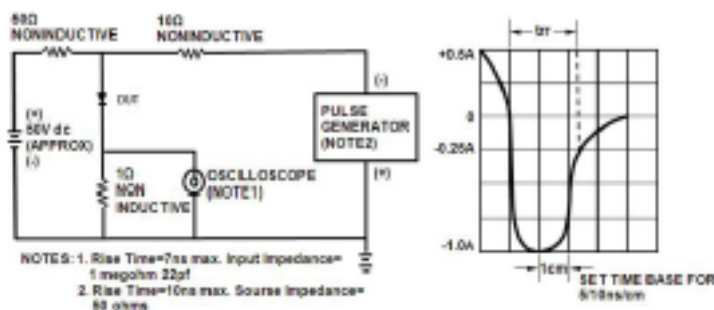
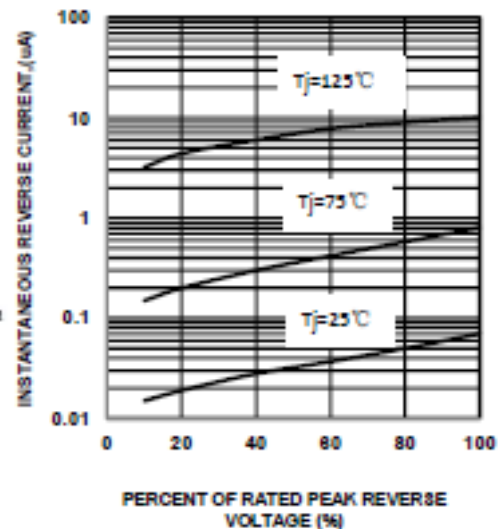
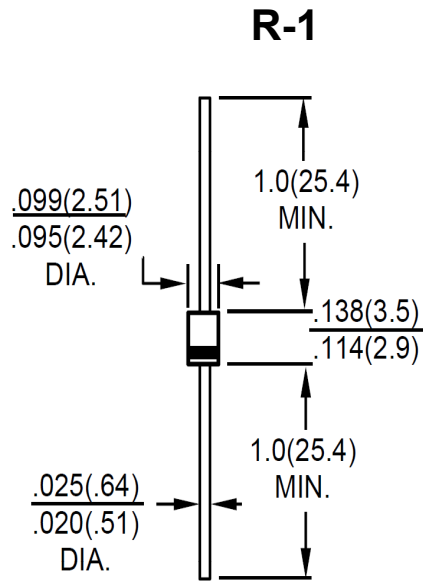


FIG.8-TYPICAL REVERSE CHARACTERISTICS



Package Outline Dimensions

in inches (millimeters)



Dimensions in inches and (millimeters)

Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2024.02.23	Modify document format

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