

1A,200-1000V 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



DO-41(DO-204AL)

Applications

- Small battery charger, Power supplies

Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted)							
Parameter	Symbol	1N4942	1N4944	1N4946	1N4947	1N4948	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	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}	52	°C/W
Thermal Resistance, Junction to Case	R _{θJC}	24	°C/W
Thermal Resistance, Junction to Lead	R _{θJL}	13	°C/W

Electrical Specifications (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	1N4942	1N4944	1N4946	1N4947	1N4948	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

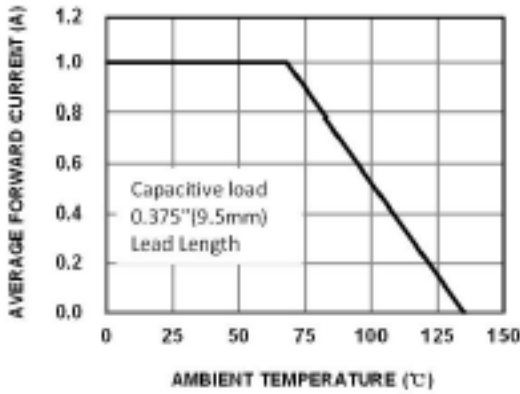


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

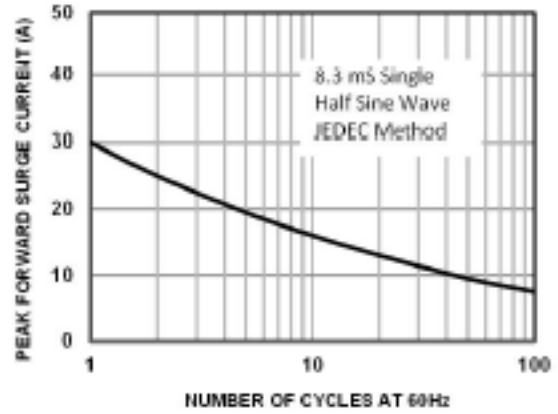


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

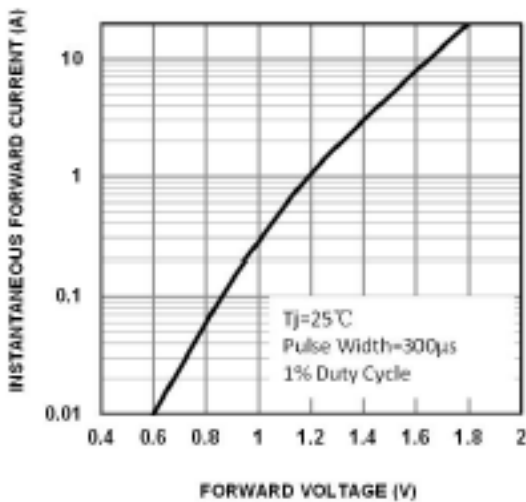


FIG.4-TYPICAL REVERSE CHARACTERISTICS

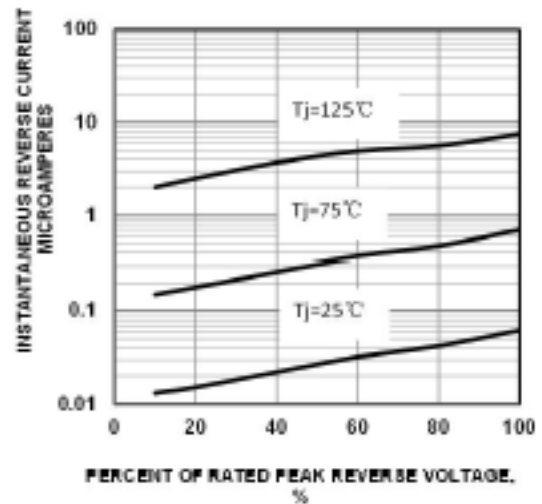


FIG.5-TYPICAL JUNCTION CAPACITANCE

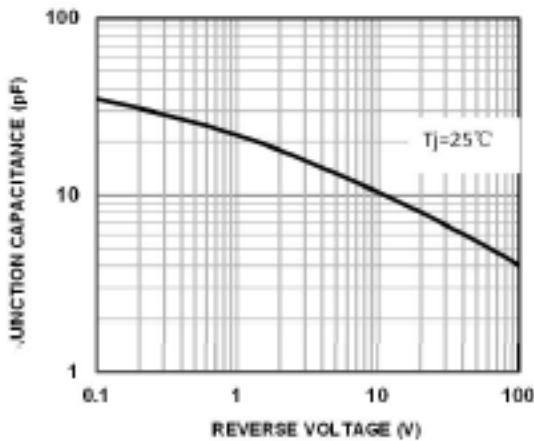
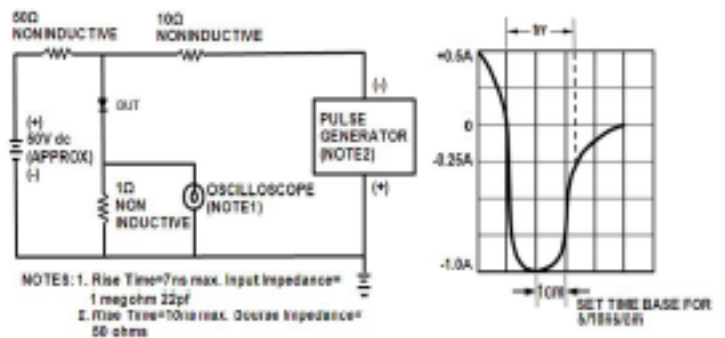


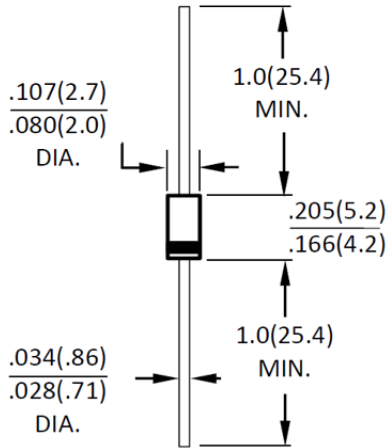
FIG.6 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



Package Outline Dimensions

in inches (millimeters)

DO-41(DO-204AL)



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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