

## 1A,400-1000V 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 <sub>A</sub> =25°C unless otherwise noted)						
Parameter	Symbol	BA157	BA158	BA159D	BA159	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	400	600	800	1000	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	20				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>	52	°C / W
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	24	°C / W
Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	13	°C / W

Electrical Specifications (T <sub>A</sub> =25°C unless otherwise noted)							
Parameter	Symbol	Test Conditions	BA157	BA158	BA159D	BA159	Unit
Forward Drop Voltage	V <sub>F</sub>	I <sub>F</sub> =1A	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	15				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	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

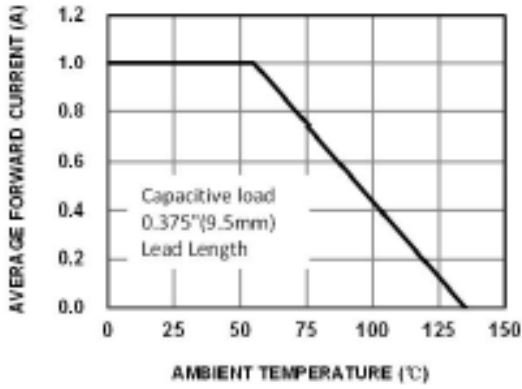


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

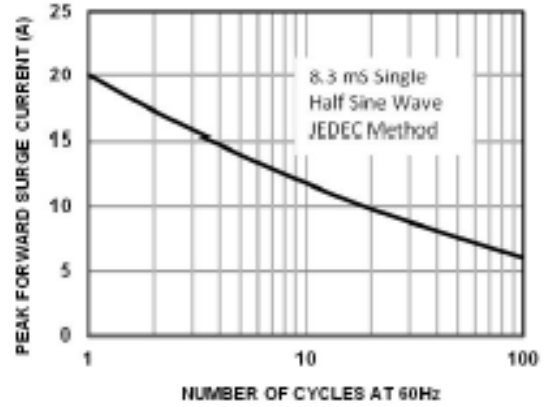


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

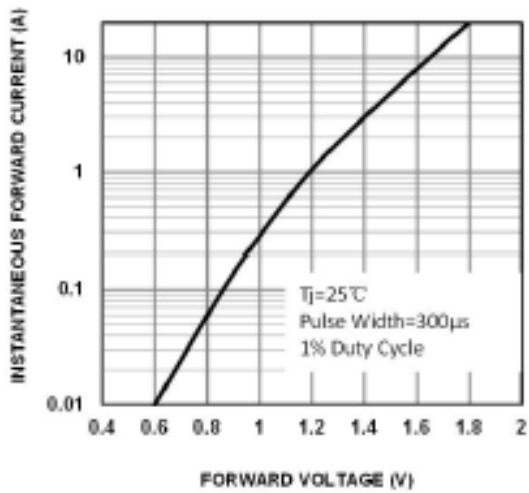


FIG.4-TYPICAL REVERSE CHARACTERISTICS

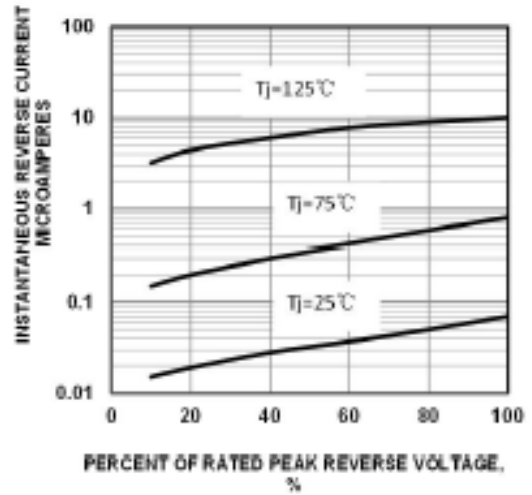


FIG.5-TYPICAL JUNCTION CAPACITANCE

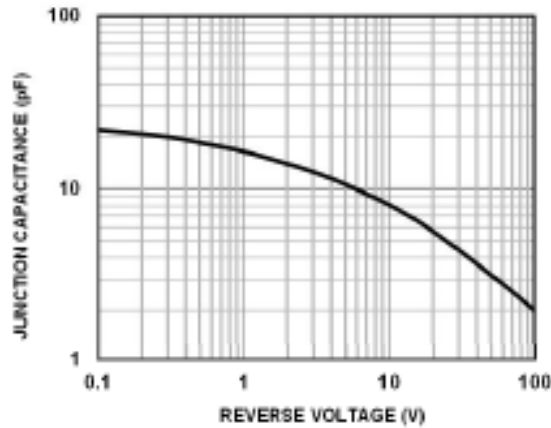
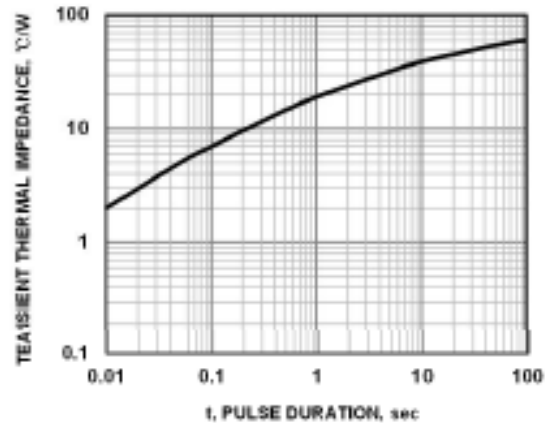


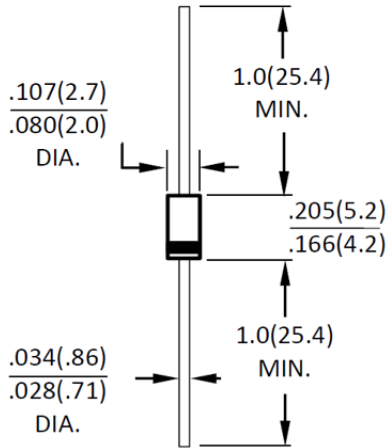
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE



## 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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