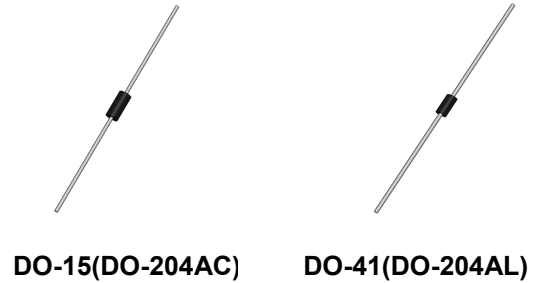


## 1.5A,50-1000V High Efficient Rectifiers

### 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



### Applications

- Small battery charger, Power supplies

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

Parameter	Symbol	HER151	HER152	HER153	HER154	HER155	HER156	HER157	HER158	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	300	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	210	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	300	400	600	800	1000	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1.5								A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	50								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>	69	°C /W
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	37	°C /W
Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	28	°C /W

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

Parameter	Symbol	Test Conditions	HER151	HER152	HER153	HER154	HER155	HER156	HER157	HER158	Unit
Forward Drop Voltage	V <sub>F</sub>	I <sub>F</sub> =1.5A	1.0			1.3		1.7			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	50					30			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	50					75			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)

FIG.1-MAXIMUM FORWARD CURRENT DERATING CURVE

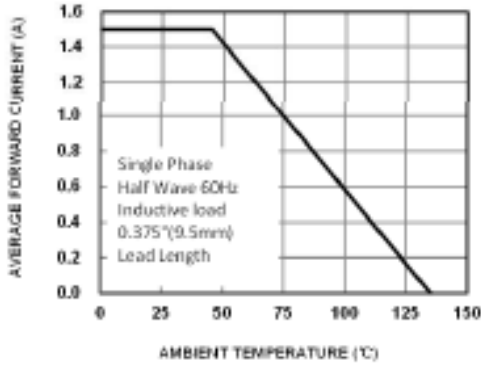


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

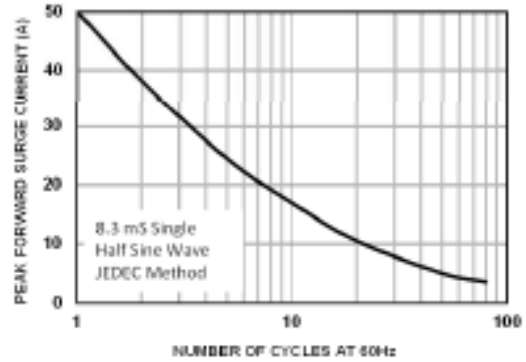


FIG.3-TYPICAL FORWARD CHARACTERISTICS

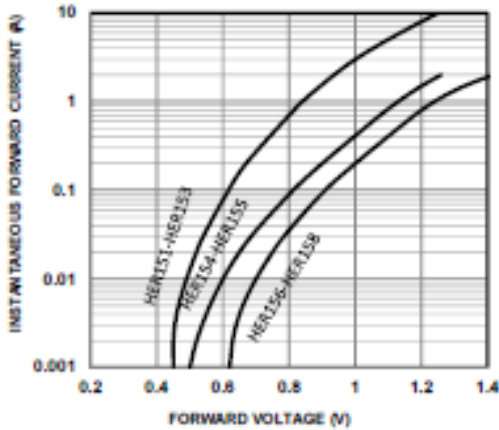


FIG.5-TYPICAL JUNCTION CAPACITANCE

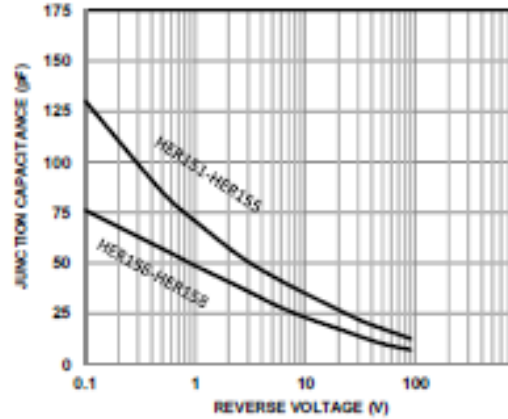


FIG.4-TYPICAL REVERSE CHARACTERISTICS

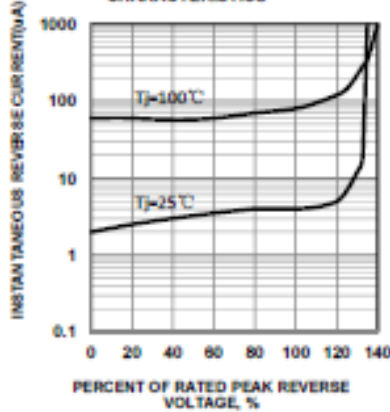
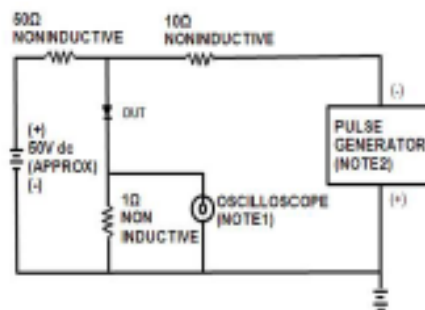
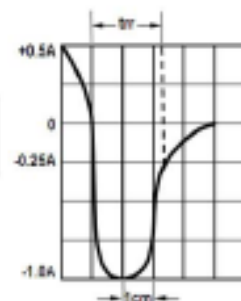


FIG.5 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time= $t_{rr}$  max. Input Impedance=1 megohm 22pf  
2. Rise Time=10ns max. Source Impedance=50 ohms

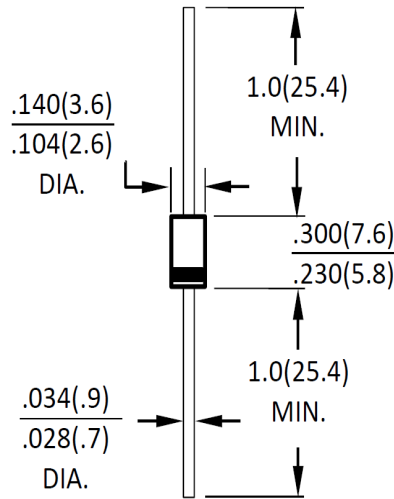


SET TIME BASE FOR 5/10ns/cm

## Package Outline Dimensions

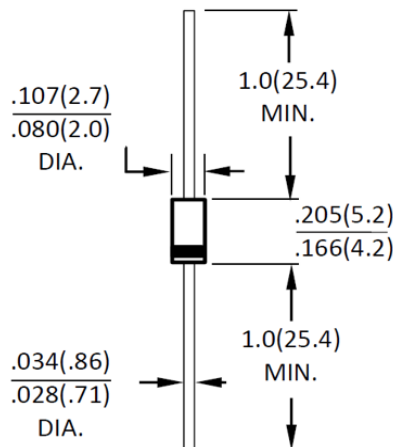
in inches (millimeters)

### DO-15(DO-204AC)



Dimensions in inches and (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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