

# A115A-A115M

## FAST RECOVERY RECTIFIERS

### FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

### MAXIMUM RATINGS

Parameter	Symbol	A115F	A115A	A115B	A115C	A115D	A115E	A115M	Units
Maximum peak repetitive reverse voltage	$V_{RRM}$	50	100	200	300	400	500	600	V
Maximum RMS input voltage	$V_{RMS}$	35	70	140	210	280	350	420	V
Maximum DC reverse voltage	$V_{R(DC)}$	50	100	200	300	400	500	600	V
Maximum average forward output current $L = 0.375"$ $T_A = 55^\circ\text{C}$ $T_A = 25^\circ\text{C}$	$I_O$	3.0 5.0							A
Maximum peak surge current (8.3ms half sine wave, superimposed on rated load) (Non repetitive 0.001 second half-sine wave, full load $T_J = @ 150^\circ\text{C}$ )	$I_{FSM}$	110 200							A
$I^2t$ for fusing, RMS 0.001 to 0.01 seconds	$I^2t$	20.0					$A^2s$		
Operating junction temperature range	$T_J$	$-65^\circ$ to $150^\circ$					$^\circ\text{C}$		
Storage temperature range	$T_{stg}$	$-65^\circ$ to $175^\circ$					$^\circ\text{C}$		

(1) For capacitive load derate current by 20%.

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

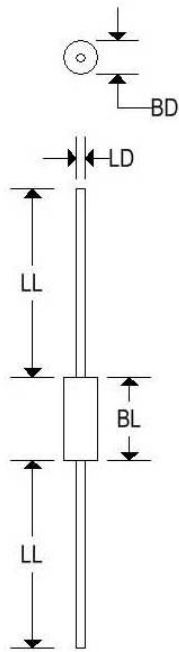
Parameter	Symbol	A115F	A115A	A115B	A115C	A115D	A115E	A115M	Units
Maximum instantaneous forward voltage drop @ 5A	$V_F$	1.1							V
Maximum reverse current @ $T_J = 25^\circ\text{C}$ @ $T_J = 150^\circ\text{C}$	$I_R$	2 100	2 100	5 300	5 300	5 300	5 200	5 200	mA
Typical reverse recovery time	$t_{rr}$	140							ns
Maximum reverse recovery time	$t_{rr}$	200							ns

# A115A-A115M

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### MECHANICAL CHARACTERISTICS

<b>Case:</b>	SOD-64
<b>Marking:</b>	Body painted, alpha-numeric
<b>Polarity:</b>	Cathode band



	SOD-64			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.169	0.250	4.300	6.350
BL	-	0.300	-	7.620
LD	0.048	0.053	1.219	1.350
LL	1.024	1.102	26.000	28.000

# A115A-A115M

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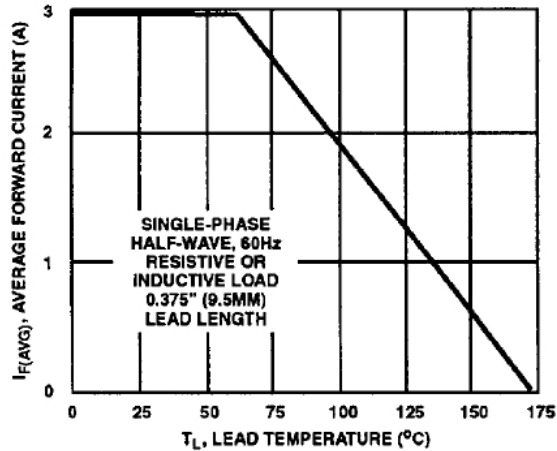


FIGURE 1. MAXIMUM AVERAGE FORWARD OUTPUT CURRENT CHARACTERISTIC

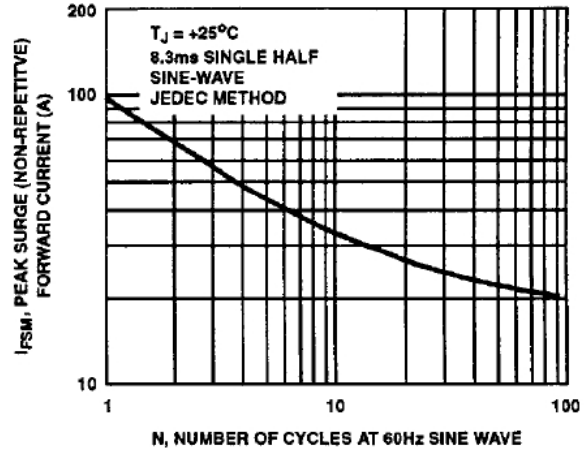


FIGURE 2. MAXIMUM PEAK SURGE (NON-REPETITIVE) FORWARD CURRENT CHARACTERISTIC

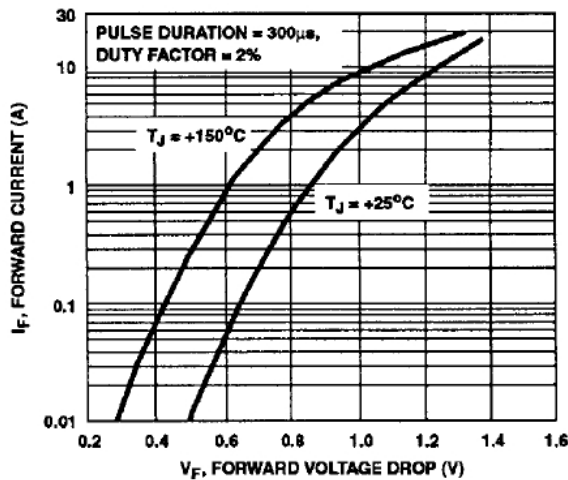


FIGURE 3. TYPICAL INSTANTANEOUS FORWARD CURRENT CHARACTERISTIC

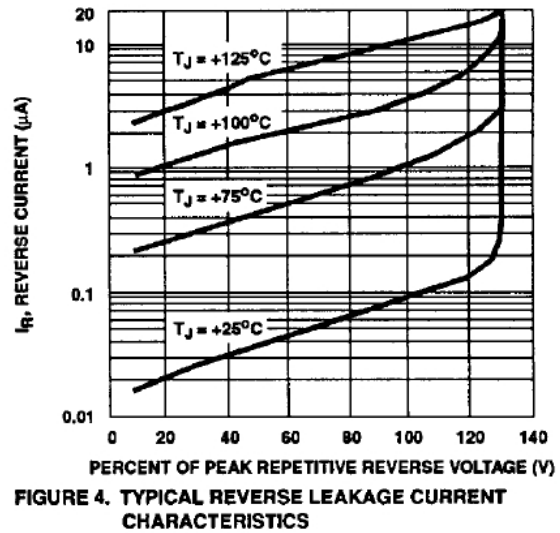


FIGURE 4. TYPICAL REVERSE LEAKAGE CURRENT CHARACTERISTICS

# A115A-A115M

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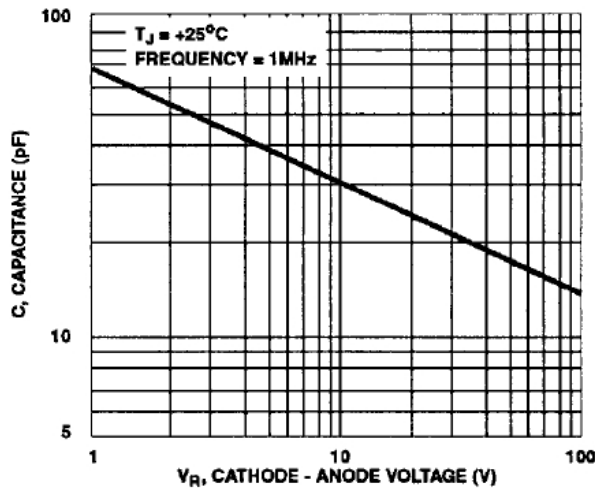


FIGURE 5. TYPICAL JUNCTION CAPACITANCE CHARACTERISTIC

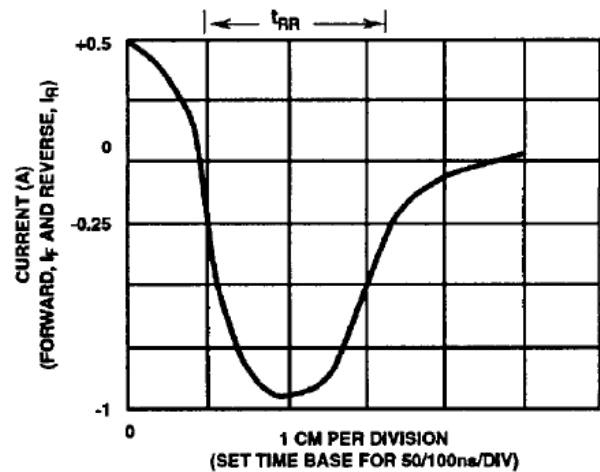
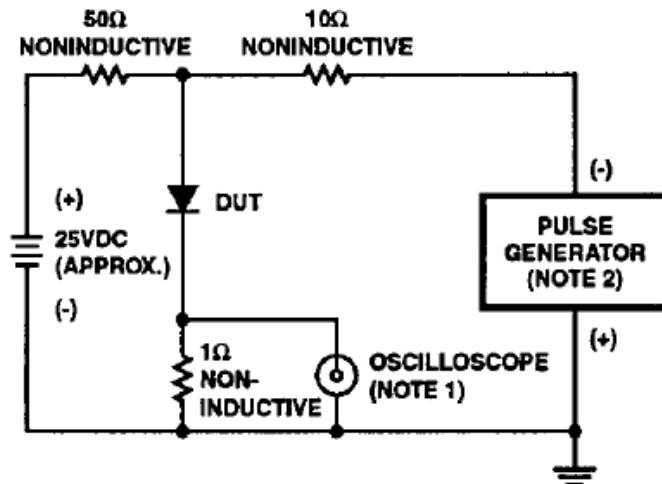


FIGURE 6. REVERSE-RECOVERY TIME WAVEFORM



**NOTES:**

1. RISE TIME = 7ns MAX., INPUT IMPEDANCE = 1MΩ, 22pF
2. RISE TIME = 10ns MAX., SOURCE IMPEDANCE = 50Ω

FIGURE 7. REVERSE-RECOVERY TIME TEST CIRCUIT