

# DIGITRON SEMICONDUCTORS

## A115A-A115M

## FAST RECOVERY RECTIFIERS

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

### MAXIMUM RATINGS (for single phase, 60Hz, half-wave resistive or inductive load <sup>(1)</sup>)

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 $L = 0.375"$ $T_A = 55^\circ C$ $T_A = 25^\circ C$	$I_O$	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 $T_J = @ 150^\circ C$ )	$I_{FSM}$	110 200							A
$I^2t$ for fusing, RMS 0.001 to 0.01 seconds	$I^2t$	20.0							A <sup>2</sup> s
Operating junction temperature range	$T_J$	-65° to 150							°C
Storage temperature range	$T_{stg}$	-65° to 175							°C

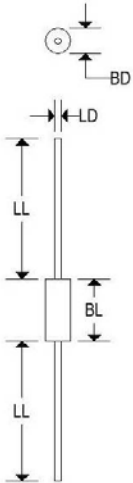
(1) For capacitive load derate current by 20%.

### ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise noted)

Parameter	Symbol	A115F	A115A	A115B	A115C	A115D	A115E	A115M	Units
Maximum instantaneous forward voltage drop @ 5A	$V_F$	1.1							V
Maximum reverse current @ $T_J = 25^\circ C$ @ $T_J = 150^\circ C$	$I_R$	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

### MECHANICAL CHARACTERISTICS

Case:	SOD-64
Marking:	Body painted, alpha-numeric
Polarity:	Cathode band



	SOD-64			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.169	0.250	4.300	6.350
BL	-	0.900	-	7.620
LD	0.048	0.053	1.219	1.350
LL	1.024	1.102	26.000	28.000

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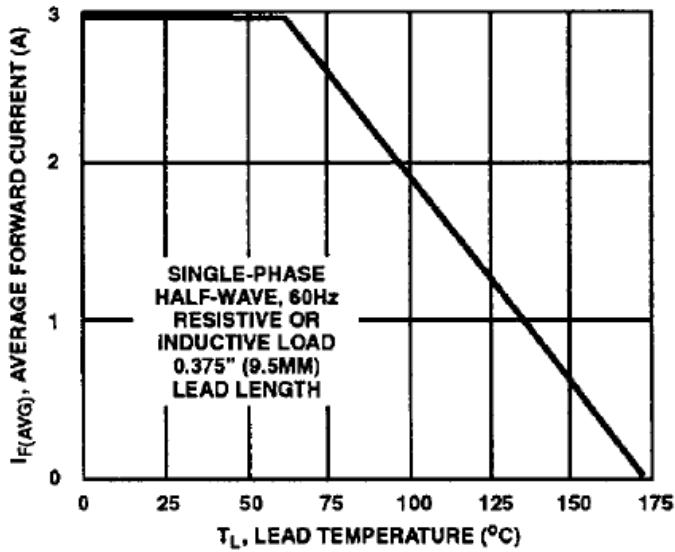


FIGURE 1. MAXIMUM AVERAGE FORWARD OUTPUT CURRENT CHARACTERISTIC

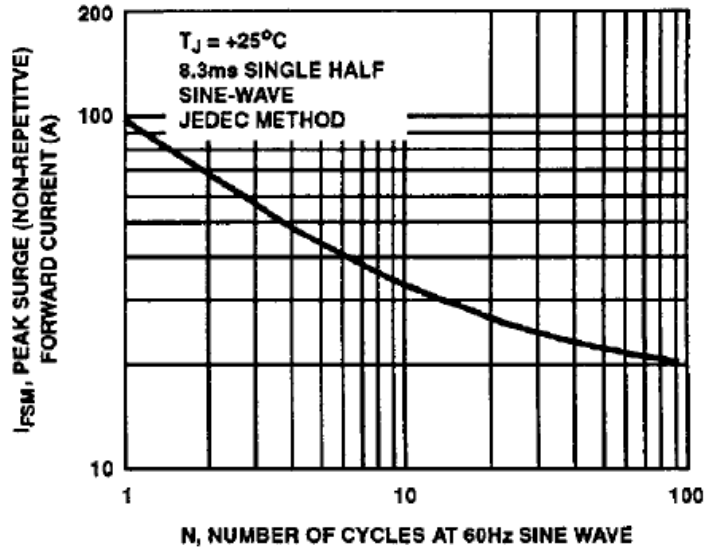


FIGURE 2. MAXIMUM PEAK SURGE (NON-REPETITIVE) FORWARD CURRENT CHARACTERISTIC

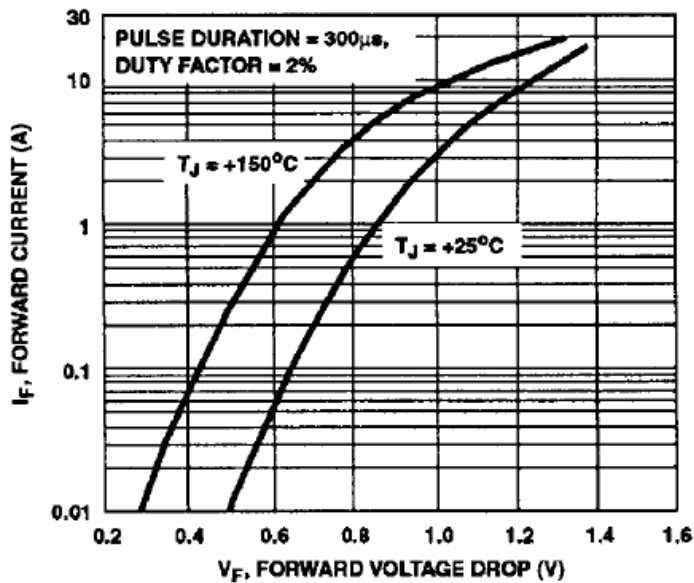


FIGURE 3. TYPICAL INSTANTANEOUS FORWARD CURRENT CHARACTERISTIC

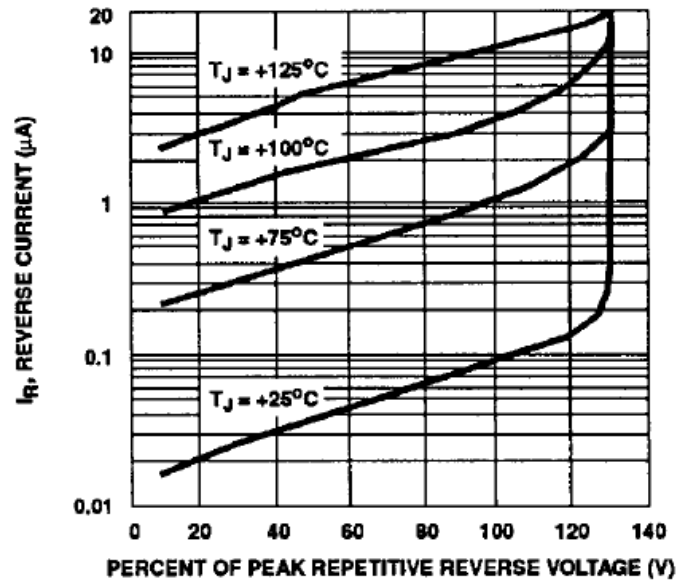


FIGURE 4. TYPICAL REVERSE LEAKAGE CURRENT CHARACTERISTICS

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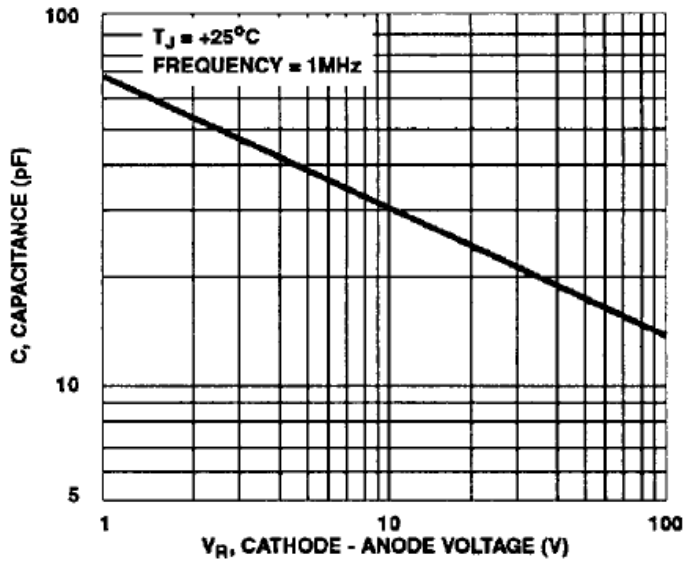


FIGURE 5. TYPICAL JUNCTION CAPACITANCE CHARACTERISTIC

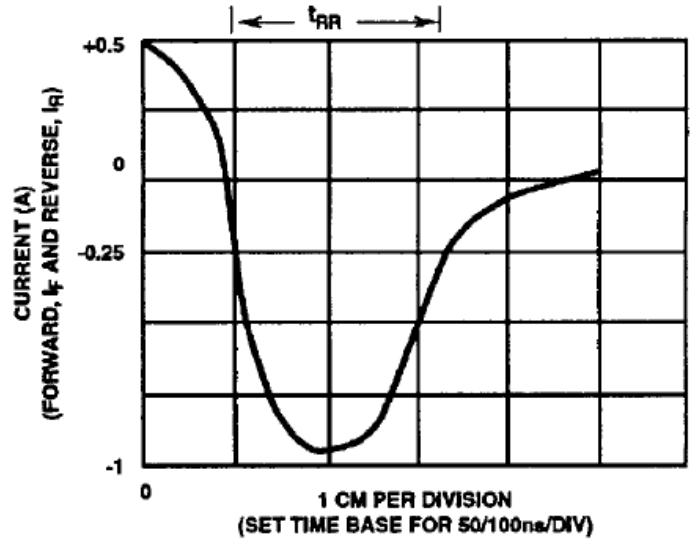
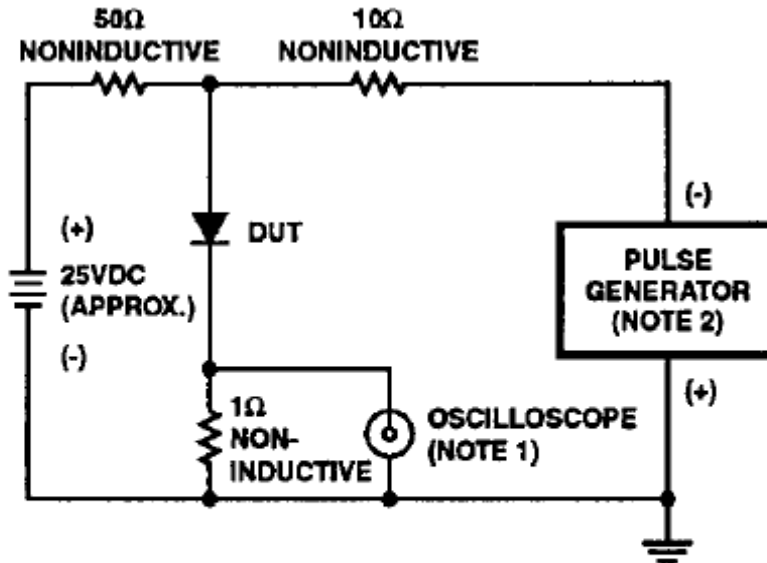


FIGURE 6. REVERSE-RECOVERY TIME WAVEFORM



**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