

# DIGITRON SEMICONDUCTORS

BYT13-600 – BYT13-1000

FAST RECOVERY RECTIFIER DIODES

## MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
$I_{FRM}$	Repetitive peak forward current	$t_p \leq 20\mu S$	50	A
$I_{F(AV)}$	Average forward current *	$T_A = 55^\circ C$ $\delta = 0.5$	3	A
$I_{FSM}$	Surge non-repetitive forward current	$t_p = 10ms$ sinusoidal	100	A
$P_{tot}$	Power dissipation *	$T_A = 55^\circ C$	3.75	W
$T_{stg}$ $T_J$	Storage and junction temperature range		-40 to +150	$^\circ C$
$T_L$	Maximum lead temperature for soldering during 10s at 4mm from case		230	$^\circ C$
$R_{th(j-a)}$	Junction-ambient *		25	$^\circ C/W$

\* On infinite heatsink with 10mm lead length

Symbol	Parameter	BYT13-			Unit
		600	800	1000	
$V_{RRM}$	Repetitive peak reverse voltage	600	800	1000	V

## ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
$I_R$	$T_J = 25^\circ C$ $V_R = V_{RRM}$ $I_F = 3A$			20	$\mu A$
$V_F$				1.3	V

## RECOVERY CHARACTERISTICS

symbol	Test Conditions				Min.	Typ.	Max.	Unit
$t_{rr}$	$T_J = 25^\circ C$	$I_F = 0.5A$	$I_R = 1A$	$I_{rr} = 0.25A$			150	ns

Figure 1. Maximum average power dissipation versus average forward current.

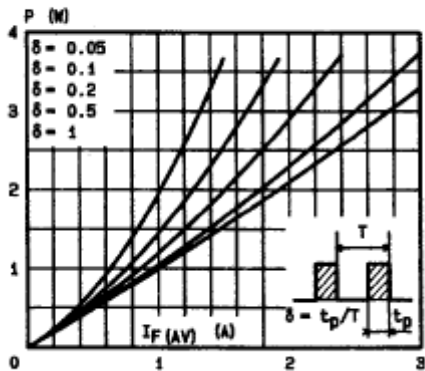
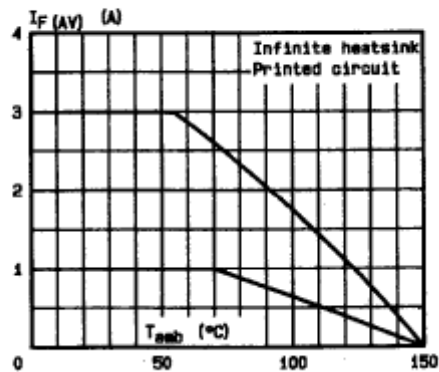


Figure 2. Average forward current versus ambient temperature.



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Figure 3. Thermal resistance versus lead length.

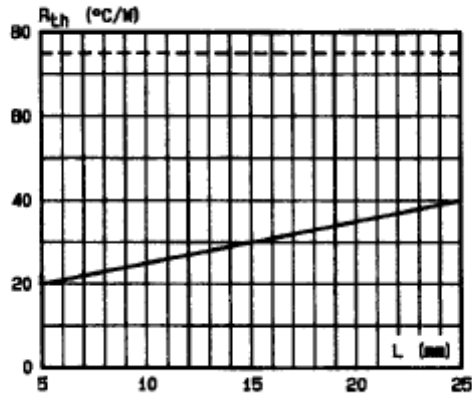


Figure 4. Transient thermal impedance junction-ambient for mounting n<sup>2</sup> versus pulse duration (L = 10 mm).

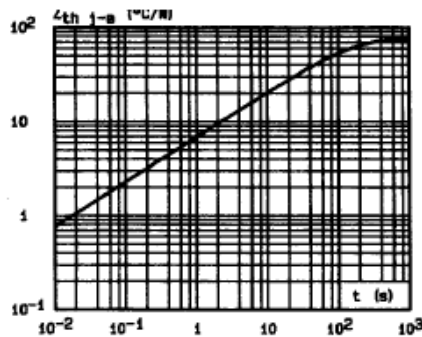


Figure 5. Peak forward current versus peak forward voltage drop (maximum values).

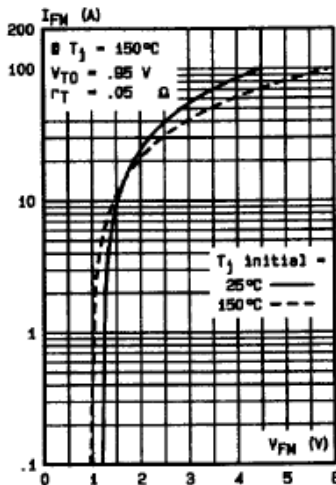


Figure 6. Capacitance versus reverse applied voltage

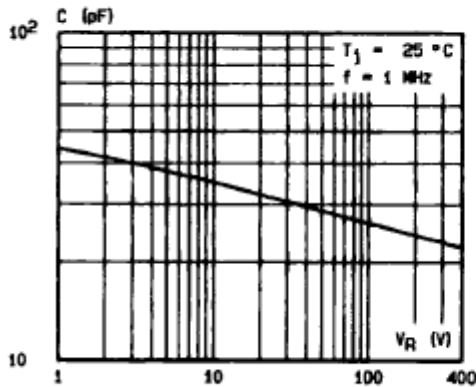
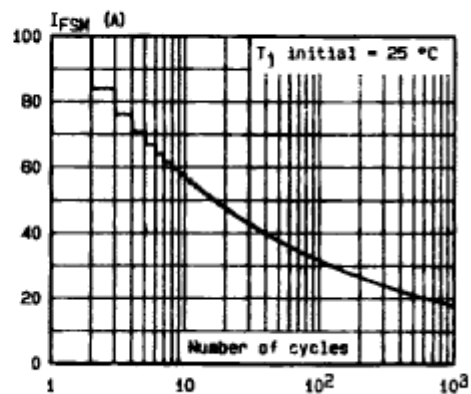


Figure 7. Non repetitive surge peak current versus number of cycles



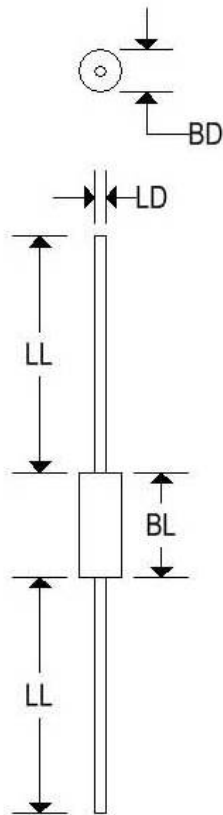
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## MECHANICAL CHARACTERISTICS

Case	DO-201AD
Marking	Type number, white band indicates cathode
Cooling method	By convection
Weight	1.166 grams



	DO-201AD			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.190	0.209	4.826	5.309
BL	0.285	0.375	7.240	9.530
LD	0.048	0.052	1.219	1.321
LL	1.000	-	25.400	-

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.