DIGITRON™ Semiconductors

High-reliability discrete products and engineering services since 1977

BYT13-600 – BYT13-1000

FAST RECOVERY RECTIFIER DIODES

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

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

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

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

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

RECOVERY CHARACTERISTICS

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

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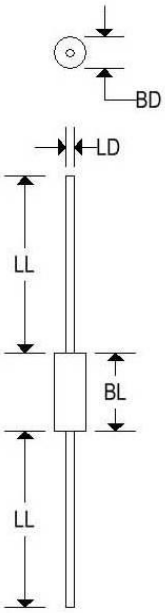
MECHANICAL CHARACTERISTICS

Case	DO-201AD
Marking	Body painted, alpha-numeric
Polarity	Cathode band



	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	-

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

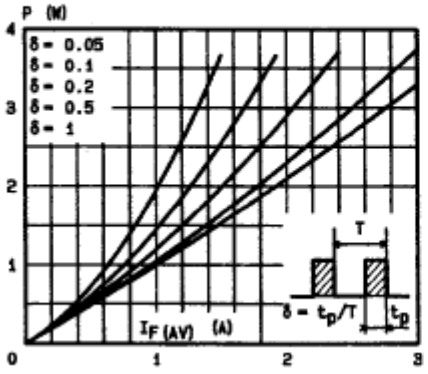

Figure 2. Average forward current versus ambient temperature.

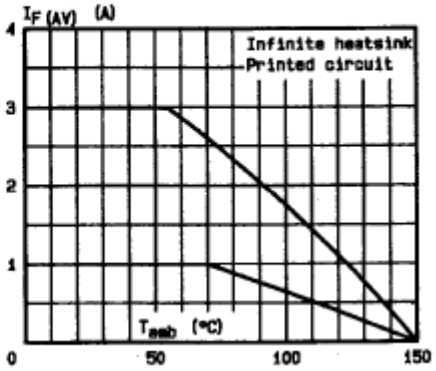

Figure 3. Thermal resistance versus lead length.

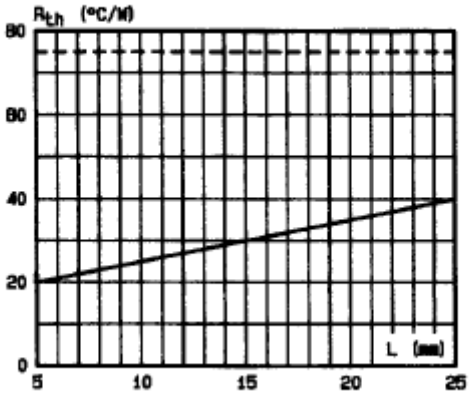

Figure 4. Transient thermal impedance junction-ambient for mounting n°2 versus pulse duration (L = 10 mm).

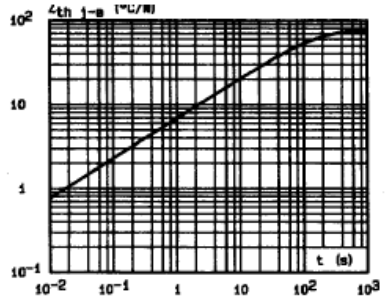

Figure 5. Peak forward current versus peak forward voltage drop (maximum values).

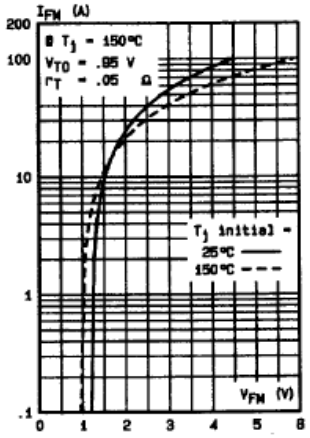

Figure 6. Capacitance versus reverse applied voltage

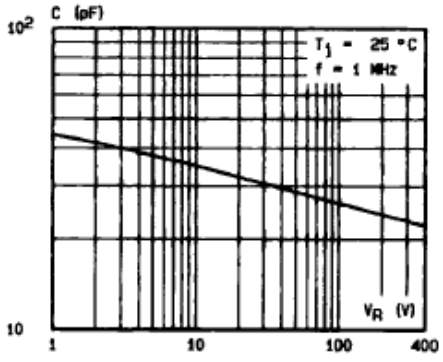

Figure 7. Non repetitive surge peak current versus number of cycles