

FYA3010DN

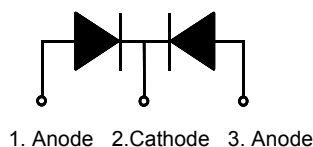
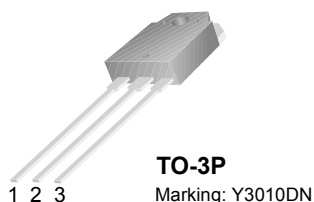
Schottky Barrier Rectifier

Features

- Low forward voltage drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection

Applications

- Switched mode power supply
- Freewheeling diodes



Absolute Maximum Ratings

(per diode) $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	100	V
V_R	Maximum DC Reverse Voltage	100	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 135^\circ\text{C}$	30	A
I_{FSM}	Non-repetitive Peak Surge Current (per diode) 60Hz Single Half-Sine Wave	250	A
T_J, T_{STG}	Operating Junction and Storage Temperature	- 65 to +150	$^\circ\text{C}$

Thermal Characteristics

$T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case (per diode)	0.78	$^\circ\text{C/W}$
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case (per PKG)	0.48	$^\circ\text{C/W}$
$R_{\theta JC}$	Maximum Thermal Resistance, Case to Heatsink	0.2	$^\circ\text{C/W}$

Electrical Characteristics

(per diode) $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{FM}^*	Maximum Instantaneous Forward Voltage $I_F = 15\text{A}$ $I_F = 15\text{A}$ $I_F = 30\text{A}$ $I_F = 30\text{A}$	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$ $T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$ 0.85 0.67 1.05(Typ.) 0.80	V
I_{RM}^*	Maximum Instantaneous Reverse Current @ rated V_R	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$ 1 20	mA

* Pulse Test: Pulse Width=300 μs , Duty Cycle=2%

Typical Performance Characteristics

Figure 1. Typical Forward Voltage Characteristics (per diode)

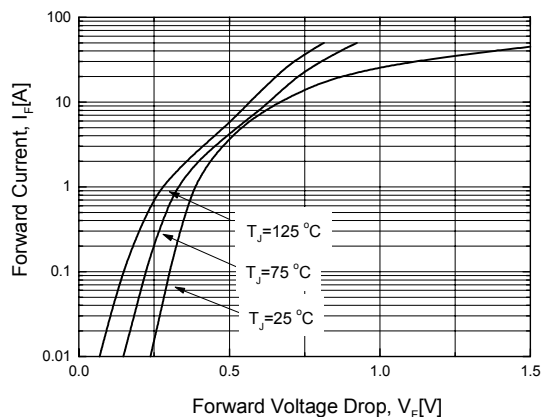


Figure 2. Typical Reverse Current vs. Reverse Voltage (per diode)

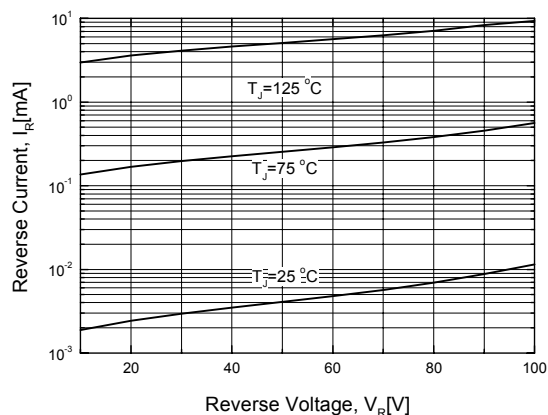


Figure 3. Typical Junction Capacitance (per diode)

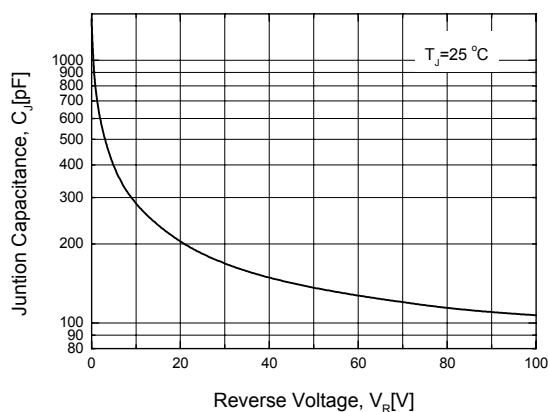


Figure 4. Forward Current Derating Curve

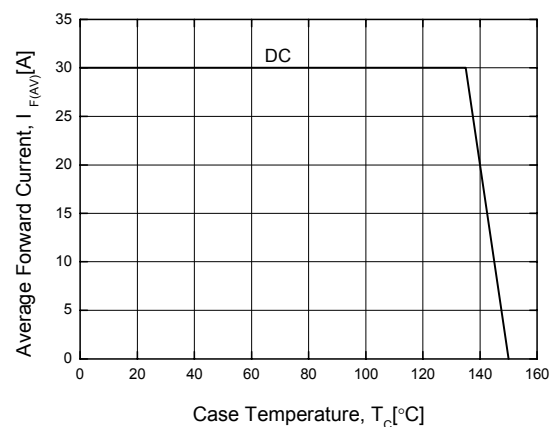


Figure 5. Non-Repetitive Surge Current (per diode)

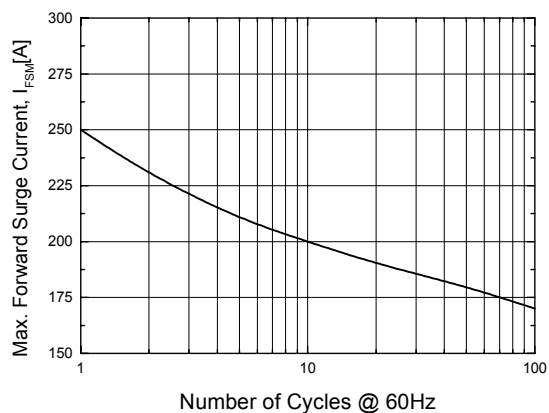
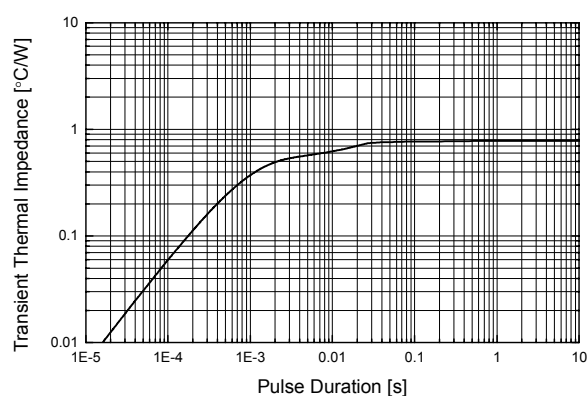
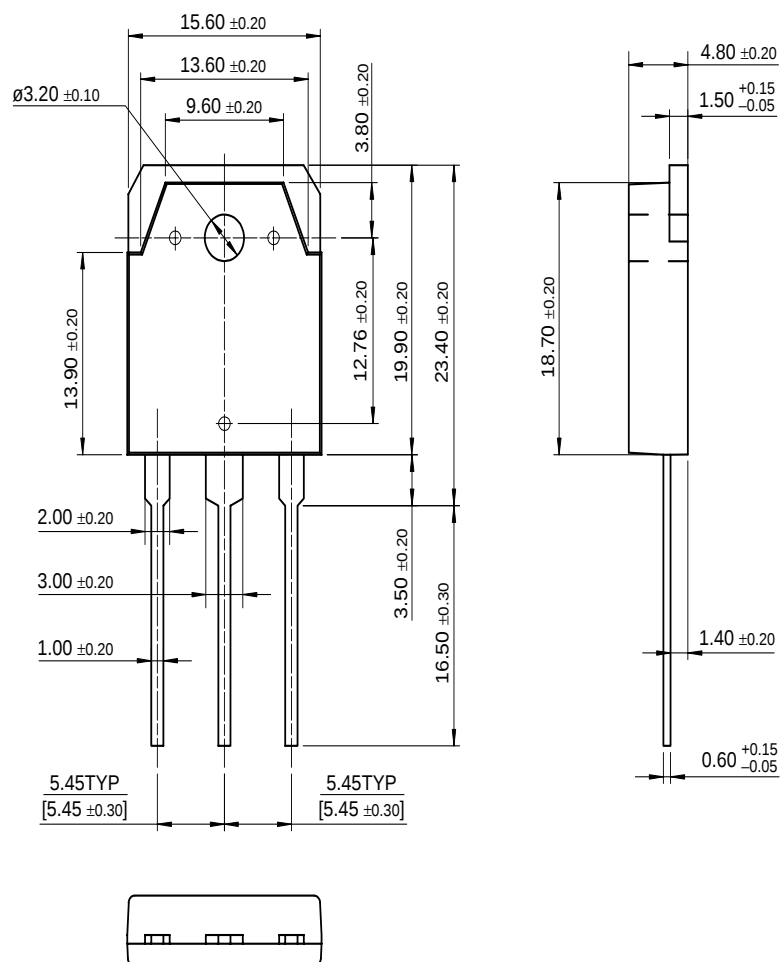


Figure 6. Thermal Impedance Characteristics (per diode)



Mechanical Dimensions

TO-3P



Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
Y3010DN	FYA3010DN	TO-3P	-	-	30

Dimensions in Millimeters

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Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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Rev. I16

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Product status/pricing/packaging

BUY

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
FYA3010DNTU	Full Production	 Full Production	\$1.21	TO-3P	3	RAIL	Line 1: \$Y (Fairchild logo) &Z (Asm. Plant Code) &3 (3-Digit Date Code) Line 2: Y3010DN

* Fairchild 1,000 piece Budgetary Pricing

** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a [Fairchild distributor](#) to obtain samples

Indicates product with Pb-free second-level interconnect. For more information [click here](#).

Package marking information for product FYA3010DN is available. [Click here for more information](#).

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FYA3010DNTU

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