

# FYA3010DN

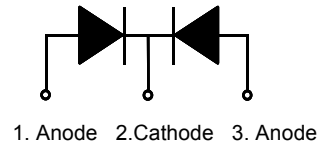
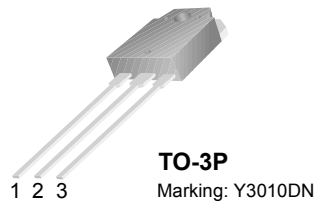
## Schottky Barrier Rectifier

### 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	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case (per PKG)	0.48	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Maximum Thermal Resistance, Case to Heatsink	0.2	$^\circ\text{C}/\text{W}$

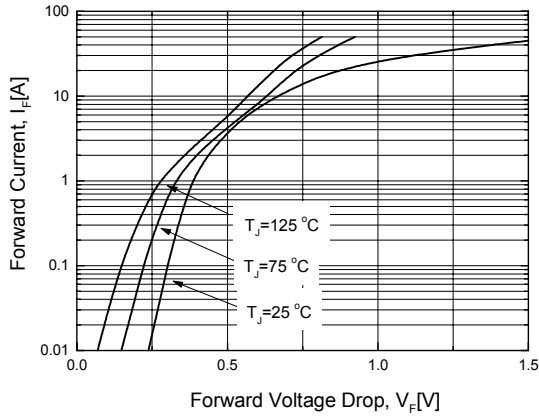
### Electrical Characteristics (per diode) $T_a = 25^\circ\text{C}$ unless otherwise noted

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

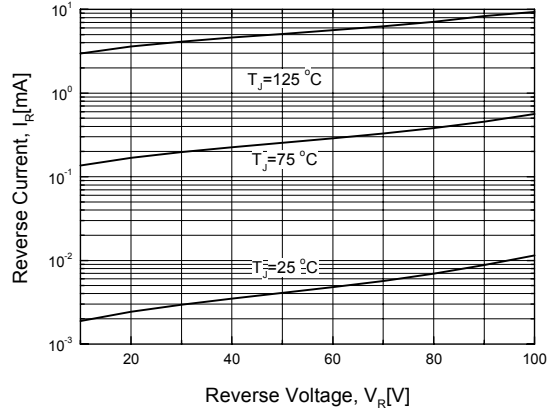
\* Pulse Test: Pulse Width=300 $\mu\text{s}$ , Duty Cycle=2%

## Typical Performance Characteristics

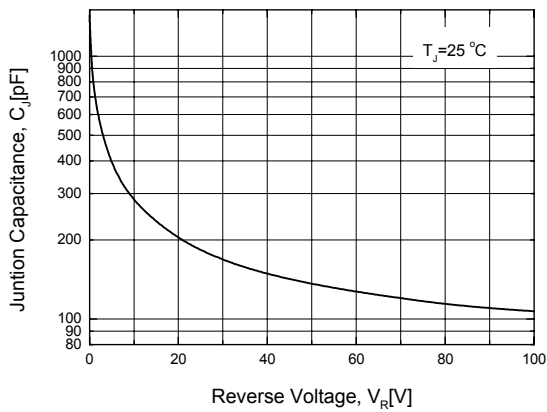
**Figure 1. Typical Forward Voltage Characteristics (per diode)**



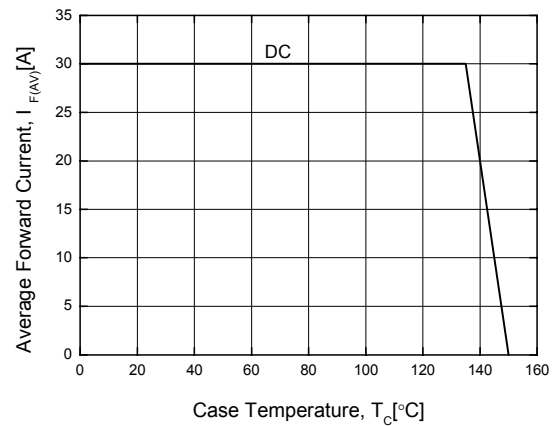
**Figure 2. Typical Reverse Current vs. Reverse Voltage (per diode)**



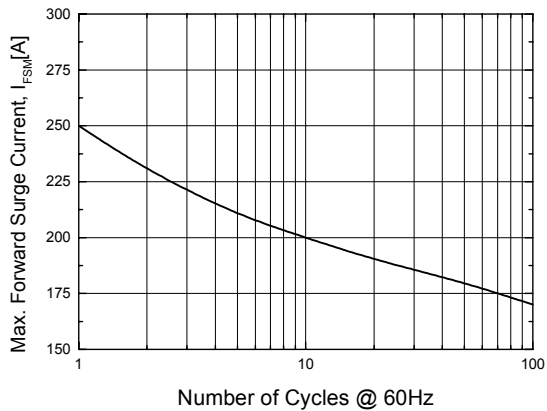
**Figure 3. Typical Junction Capacitance (per diode)**



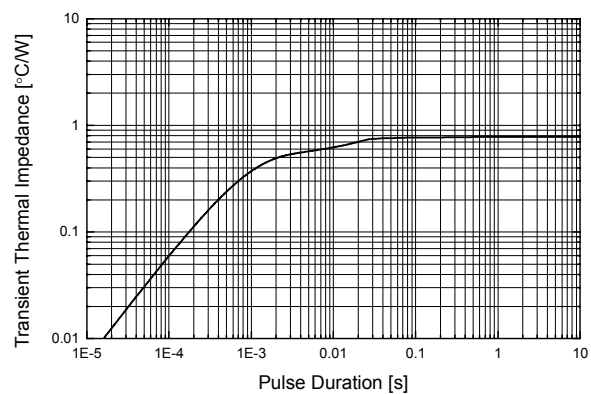
**Figure 4. Forward Current Derating Curve**



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



**Figure 6. Thermal Impedance Characteristics (per diode)**





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E <sup>2</sup> CMOS™	i-Lo™	OCX™	μSerDes™	VCX™
EnSigna™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER®	Wire™
FACT™	IntelliMAX™	OPTOLOGIC®	SMART START™	
FACT Quiet Series™		OPTOPLANAR™	SPM™	
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		PowerEdge™	SuperSOT™-6	

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