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ON Semiconductor®

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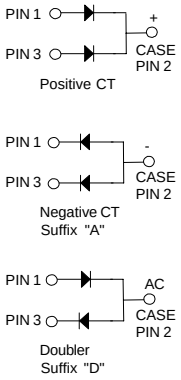
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

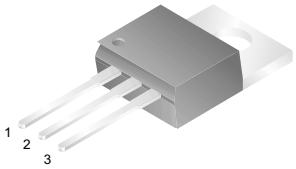
FAIRCHILD SEMICONDUCTOR®

FEP16AT - FEP16JT



Features

- Low forward voltage drop.
- High surge current capacity.
- High current capability.
- High reliability.



TO-220AB

Fast Rectifiers (Glass Passivated)

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value								Units
		16AT	16BT	16CT	16DT	16FT	16GT	16HT	16JT	
V_{RRM}	Maximum Repetitive Reverse Voltage	50	100	150	200	300	400	500	600	V
$I_{F(AV)}$	Average Rectified Forward Current, .375 " lead length @ T_A = 100°C	16								A
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	200								A
T_{stg}	Storage Temperature Range	-55 to +150								°C
T_J	Operating Junction Temperature	-55 to +150								°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation	8.33	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	15	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	2.2	°C/W

Electrical Characteristics

T_A = 25°C unless otherwise noted

Symbol	Parameter	Device								Units
		16AT	16BT	16CT	16DT	16FT	16GT	16HT	16JT	
V_F	Forward Voltage @ 8.0A	0.95				1.3		1.5		V
t_{rr}	Reverse Recovery Time I_F = 0.5 A, I_R = 1.0 A, I_{RR} = 0.25 A	35				50				ns
I_R	Reverse Current @ rated V_R T_A = 25°C T_A = 100°C	10 500								µA µA
C_T	Total Capacitance V_R = 4.0. f = 1.0 MHz	85						60		pF

Typical Characteristics

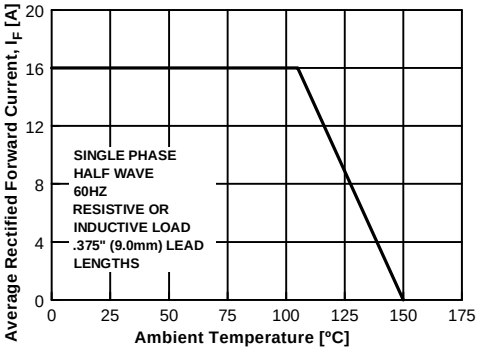


Figure 1. Forward Current Derating Curve

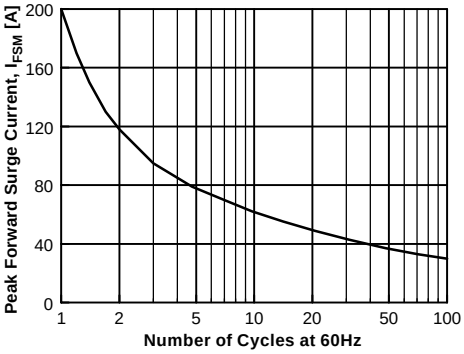


Figure 2. Non-Repetitive Surge Current

Reverse Characteristics

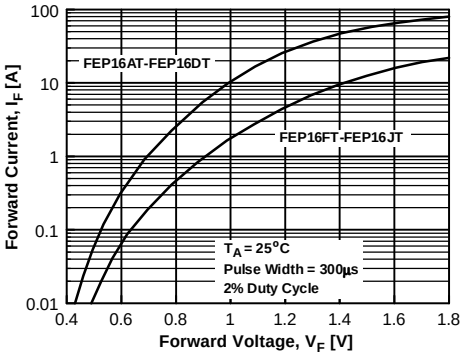


Figure 3. Forward Voltage Characteristics

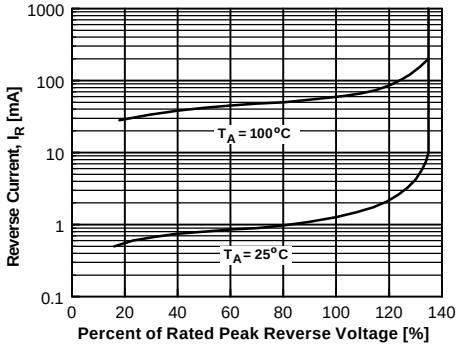


Figure 4. Reverse Current vs Reverse Voltage

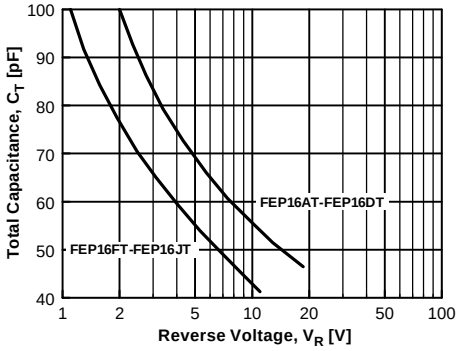
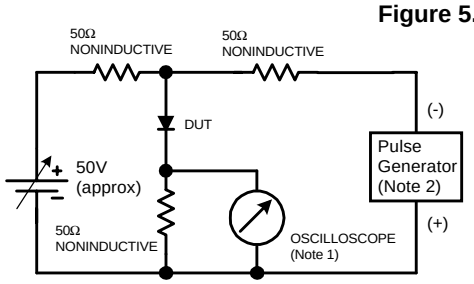
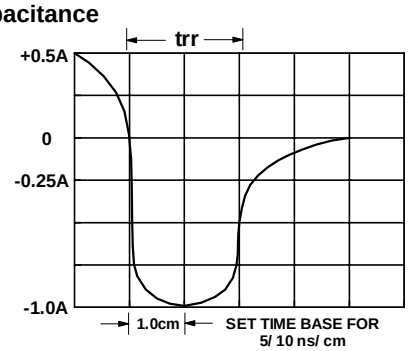


Figure 5. Total Capacitance





Reverse Recovery Time Characterstic and Test Circuit Diagram

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Rev. H4

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