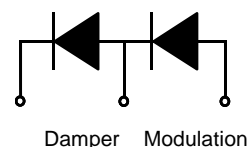


FFPF60B150DS

Features

- High voltage and high reliability
- High speed switching
Modulation diode / Damper diode
- Low conduction loss
Modulation diode / Damper diode



Applications

- (Modulation + Damper) diode designed for horizontal deflection circuits in C-TVs & monitors

DAMPER + MODULATION DIODE

Absolute Maximum Ratings (Modulation) $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 100^\circ\text{C}$	20	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	120	A
T_J, T_{STG}	Operating Junction and Storage Temperature	- 65 to +150	$^\circ\text{C}$

Absolute Maximum Ratings (Damper) $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	1500	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 100^\circ\text{C}$	6	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	60	A
T_J, T_{STG}	Operating Junction and Storage Temperature	- 65 to +150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	3.3	$^\circ\text{C/W}$

Electrical Characteristics*(Modulation) $T_C=25\text{ }^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Min.	Typ.	Max.	Units
V_{FM}	Maximum Instantaneous Forward Voltage $I_F = 20\text{A}$ $I_F = 20\text{A}$			2.2	V
				$T_C = 25\text{ }^\circ\text{C}$ $T_C = 100\text{ }^\circ\text{C}$	
I_{RM}	Maximum Instantaneous Reverse Current @ rated V_R			10 100	μA
				$T_C = 25\text{ }^\circ\text{C}$ $T_C = 100\text{ }^\circ\text{C}$	
t_{rr}	Maximum Reverse Recovery Time			90	ns
I_{rr}	Maximum Reverse Recovery Current			8	A
Q_{rr}	Maximum Reverse Recovery Charge ($I_F = 20\text{A}$, $di/dt = 200\text{A}/\mu\text{s}$)			360	nC

* Pulse Test: Pulse Width=300 μs , Duty Cycle=2%**Electrical Characteristics*(Damper)** $T_C=25\text{ }^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Min	Typ	Max	Units
V_{FM}	Maximum Instantaneous Forward Voltage $I_F = 6\text{A}$ $I_F = 6\text{A}$			1.6	V
				$T_C = 25\text{ }^\circ\text{C}$ $T_C = 100\text{ }^\circ\text{C}$	
I_{RM}	Maximum Instantaneous Reverse Current @ rated V_R			7 60	μA
				$T_C = 25\text{ }^\circ\text{C}$ $T_C = 100\text{ }^\circ\text{C}$	
t_{rr}	Maximum Reverse Recovery Time ($I_F = 1.0\text{A}$, $di/dt = 50\text{A}/\mu\text{s}$)			170	ns
t_{fr}	Maximum Forward Recovery Time ($I_F = 6.5\text{A}$, $di/dt = 50\text{A}/\mu\text{s}$)			350	ns
V_{FRM}	Maximum Forward Recovery Voltage			17	V

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

Typical Characteristics

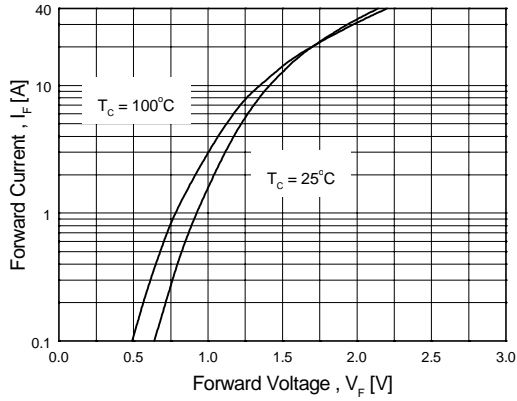


Figure 1. Typical Forward Characteristics (Modulation Diode)

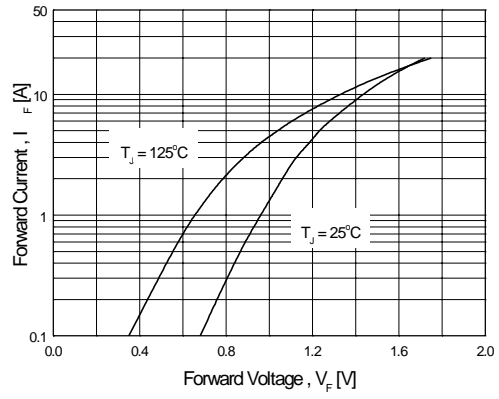


Figure 2. Typical Forward Characteristics (Damper Diode)

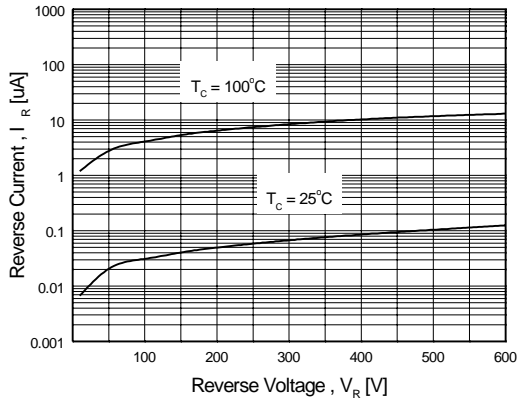


Figure 3. Typical Reverse Current vs. Reverse Voltage (Modulation Diode)

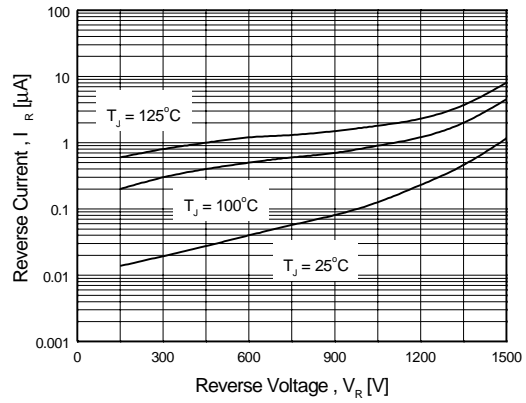


Figure 4. Typical Reverse Current vs. Reverse Voltage (Damper Diode)

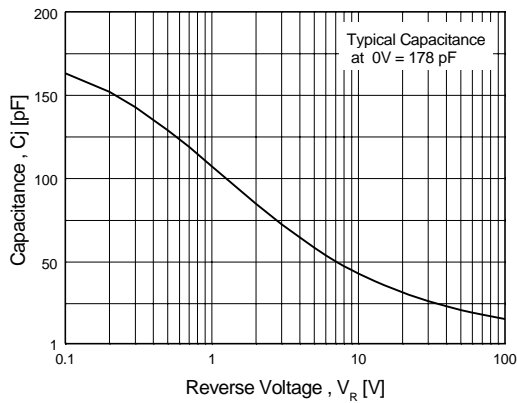


Figure 5. Typical Junction Capacitance (Modulation Diode)

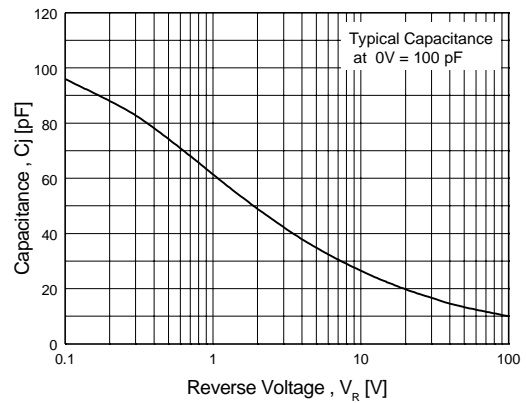


Figure 6. Typical Junction Capacitance (Damper Diode)

Typical Characteristics

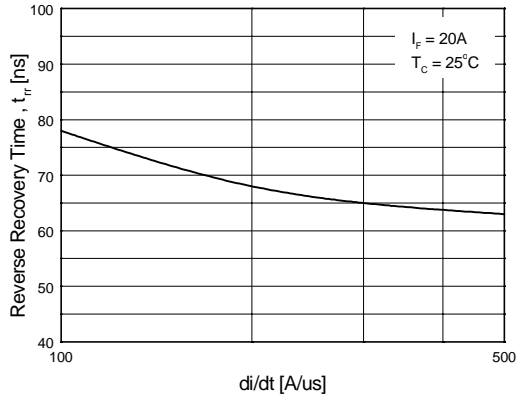


Figure 7. Typical Reverse Recovery Time vs. di/dt (Modulation Diode)

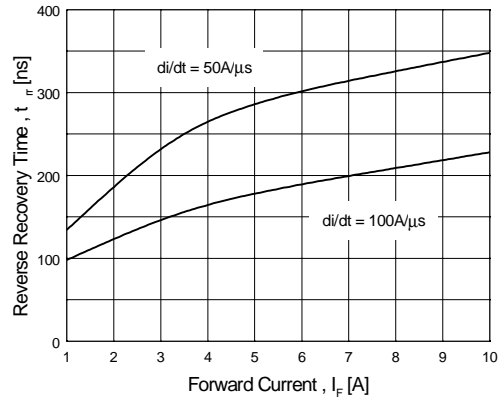


Figure 8. Typical Reverse Recovery Time vs. di/dt (Damper Diode)

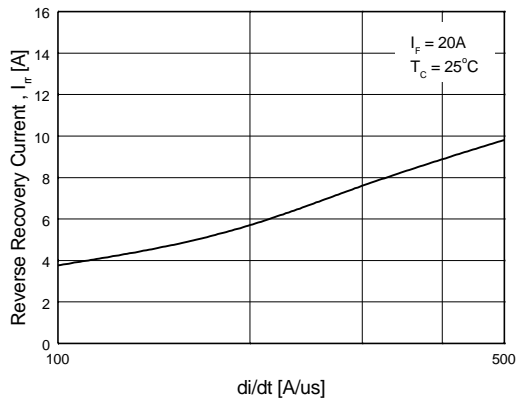


Figure 9. Typical Reverse Recovery Current vs. di/dt (Modulation Diode)

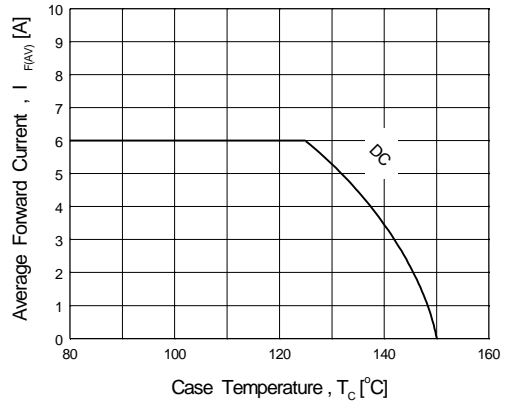


Figure 10. Forward Current Derating Curve (Damper Diode)

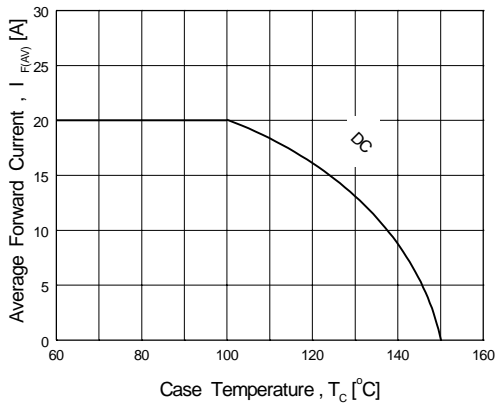
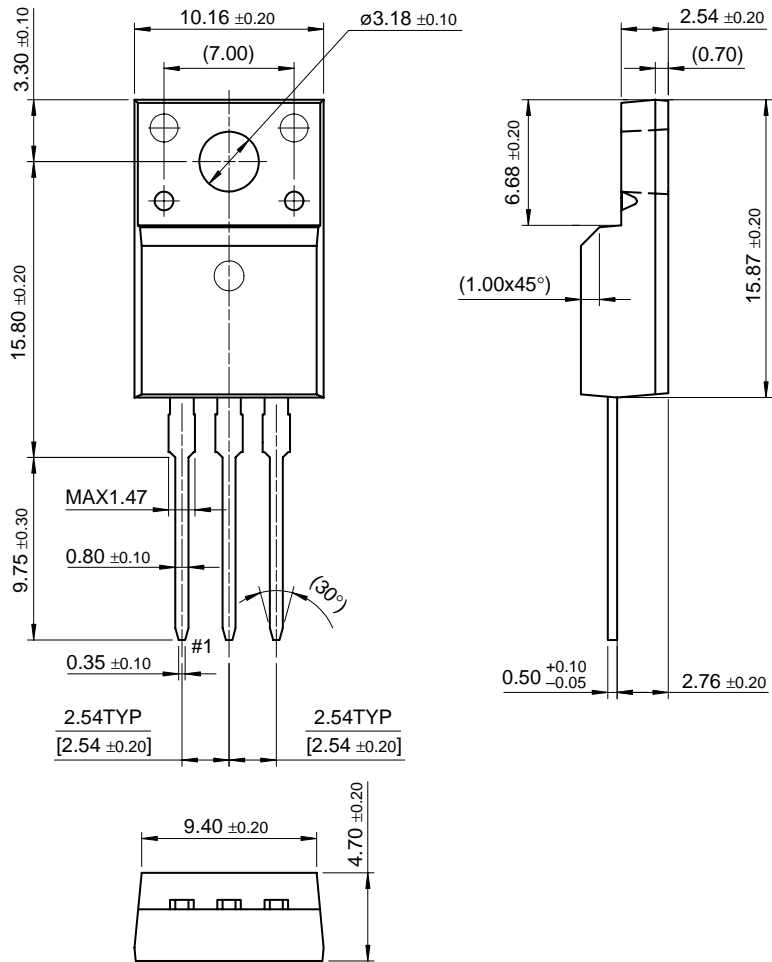


Figure 11. Forward Current Derating Curve (Modulation Diode)

Package Dimensions

TO-220F

FFPF60B150DS



Dimensions in Millimeters

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CoolFET™	GlobalOptoisolator™	PowerTrench [®]	SuperSOT™-8
CROSSVOLT™	GTO™	QFET™	SyncFET™
DenseTrench™	HiSeC™	Q5™	TinyLogic™
DOME™	ISOPLANAR™	QT Optoelectronics™	UHC™
EcoSPARK™	LittleFET™	Quiet Series™	UltraFET [®]
E ² CMOS™	MicroFET™	SLIENT SWITCHER [®]	VCX™
EnSigna™	MICROWIRE™	SMART START™	
FACT™	OPTOLOGIC™	Star* Power™	
FACT Quiet Series™	OPTOPLANAR™	Stealth™	

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