



Fast Recovery Epitaxial Diode

Reverse Voltage - 600 Volts
Forward Current - 8Amperes

Features

- Ultrafast recovery time
- Soft recovery characteristics
- Low Forward Voltage
- High surge capacity
- Low Leakage Current

Mechanical Data

- Case: JEDEC TO-220AC molded plastic
- Polarity: As marked on the body

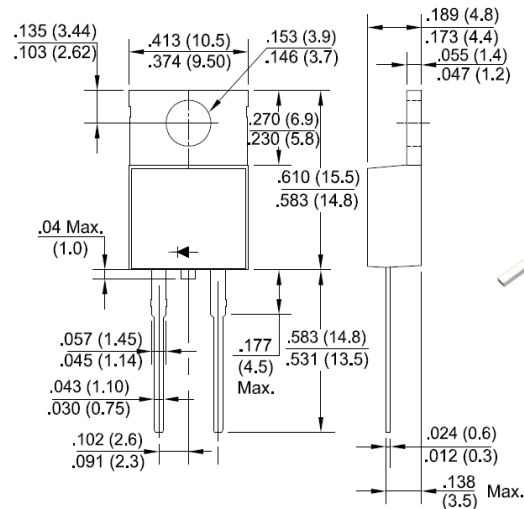
- Mounting position: Any

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

Applications

- Welding machine
- Power Supply
- Ultrasonic Cleaner

TO-220AC



RoHS
COMPLIANT



Package Outline Dimensions in Inches (Millimeters)

Absolute Maximum Ratings

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Test Conditions	Symbol	HY8LFR060T	Unit
Marking			8FR060T	
Maximum Repetitive Reverse Voltage		V_{RM}	600	V
Average Forward Current	$T_J=110^\circ\text{C}$	$I_{F(AV)}$	8	A
Non-Repetitive Surge Forward Current	$t_p=10\text{ms}$, 50Hz, Half Sine Wave	I_{FSM}	125	A
Maximum Power Dissipation		P_D	54	W
Avalanche Energy with Single Pulse (L=40mH)		EAS	60	mJ
Operating Junction Temperature Range		T_J	-55 to +150	°C
Storage Temperature Range		T_{STG}	-55 to +150	°C
Thermal Resistance	Junction-to-Case	$R_{\theta JC}$	2.3	°C/W
Thermal Resistance	Junction-to-Ambient	$R_{\theta JA}$	70	°C/W
Mounting Torque		T_{torque}	1.1	Nt. m

Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Breakdown Voltage	$I_R=100\mu\text{A}$	V_{BR}	600	-	-	V
Reverse Leakage Current	$V_R=600\text{V}$	I_R	-	-	10	μA
	$V_R=600\text{V}$, $T_J=125^\circ\text{C}$		-	-	250	μA
Forward Voltage	$I_F=8\text{A}$	V_F	-	1.3	1.7	V
	$I_F=8\text{A}$, $T_J=125^\circ\text{C}$		-	1.1	1.5	V
Reverse Recovery Time	$I_F=1\text{A}$, $V_R=30\text{V}$, $di_F/dt=-200\text{A}/\mu\text{s}$	T_{RR}	-	24	30	nS
Reverse Recovery Time	$V_R=300\text{V}$, $I_F=8\text{A}$	T_{RR}	-	32	-	nS
Peak Recovery Current	$di_F/dt=-200\text{A}/\mu\text{s}$, $T_J=25^\circ\text{C}$	I_{RRM}	-	4.2	-	A
Reverse Recovery Charge		Q_{rr}	-	67	-	nC
Reverse Recovery Time	$V_R=300\text{V}$, $I_F=8\text{A}$	T_{RR}	-	65	-	ns
Peak Recovery Current	$di_F/dt=-200\text{A}/\mu\text{s}$, $T_J=125^\circ\text{C}$	I_{RRM}	-	6.2	-	A
Reverse Recovery Charge		Q_{rr}	-	201	-	nC

8FR060T-U-00-00

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Fig. 1 - Typical Forward Voltage Drop Characteristics

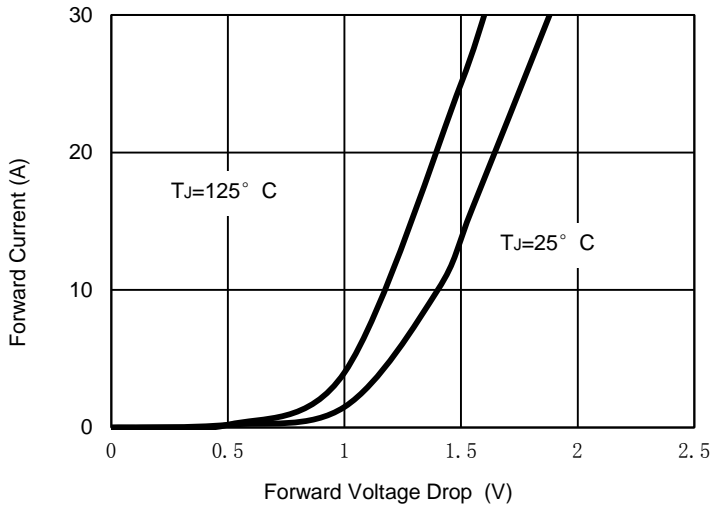


Fig. 2 - Typical Value of Reverse Characteristics

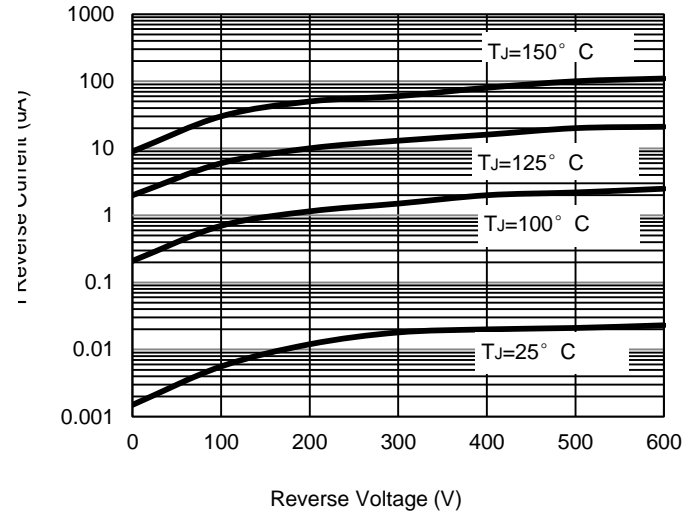


Fig. 3 - Typical Junction Capacitance

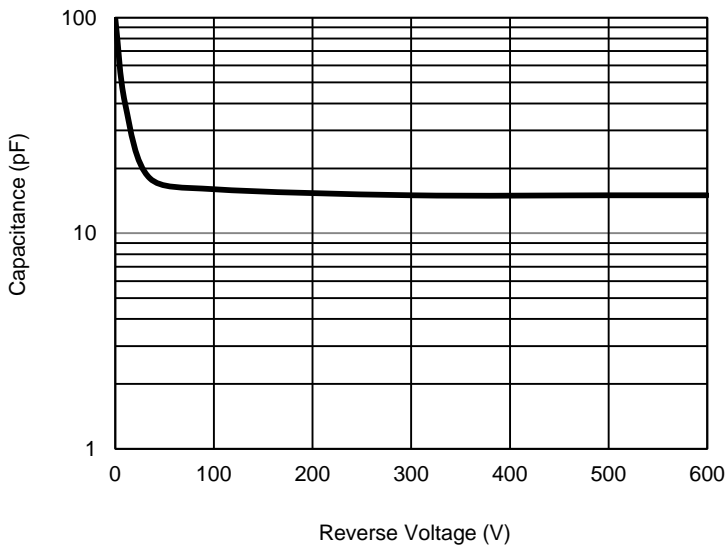
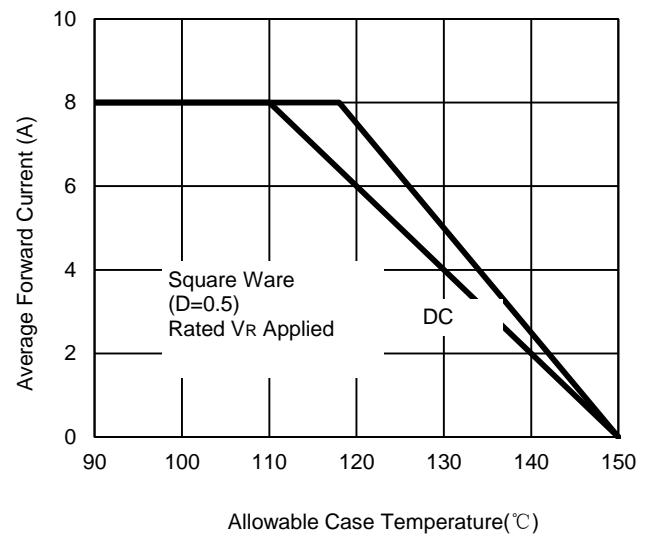


Fig. 4 - Average Forward Current Derating Curve



The curve above is for reference only.



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