

Technical Data
Data Sheet 3210, Rev. –

85HQ035/85HQ040/85HQ045 SCHOTTKY RECTIFIER

Applications:

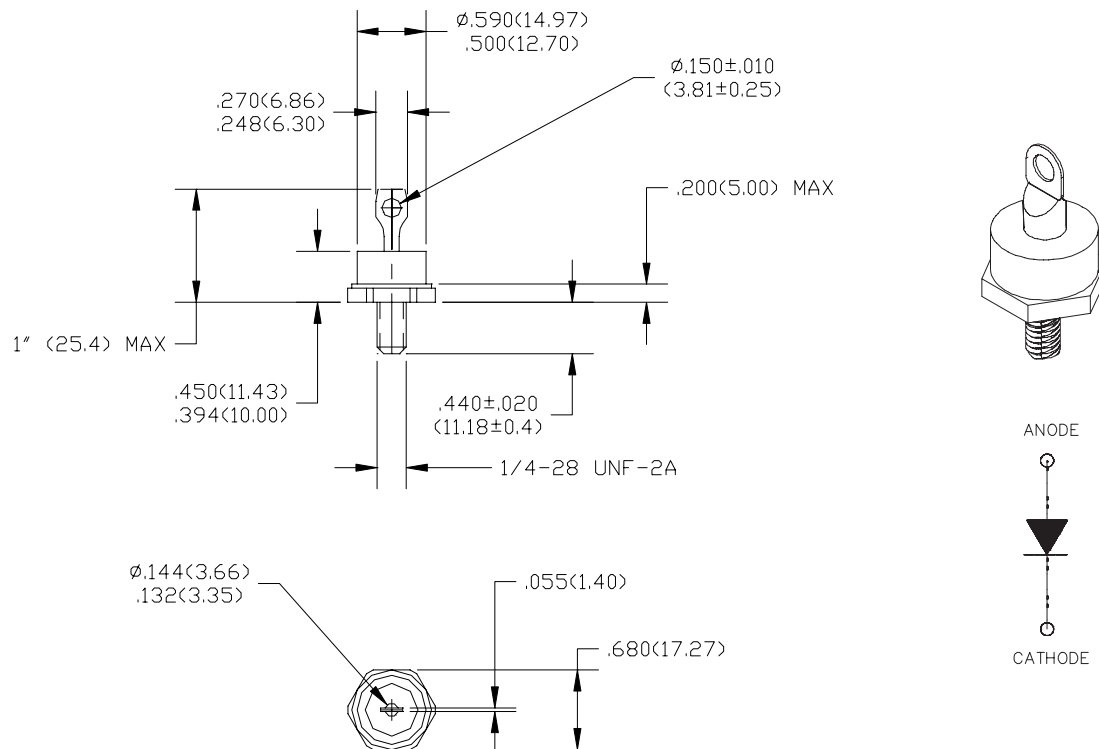
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 175 °C T_J operation
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Hermetic packaging

Mechanical Dimensions: In Inches / mm

DO-5(DO-203AB)



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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	85HQ035 85HQ040 85HQ045	35 40 45	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C=112^{\circ}C$, rectangular wave form	85	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	1350	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25^{\circ}C$, $I_{AS} = 17$ A, $L = 0.79mH$	114	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 μ sec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	17	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	V_{F1}	@ 85 A, Pulse, $T_J = 25^{\circ}C$ @ 170 A, Pulse, $T_J = 25^{\circ}C$	0.72 0.89	V
	V_{F2}	@ 85 A, Pulse, $T_J = 125^{\circ}C$ @ 170 A, Pulse, $T_J = 125^{\circ}C$	0.62 0.77	V
Max. Reverse Current *	I_{R1}	@ $V_R =$ rated V_R $T_J = 25^{\circ}C$	5	mA
	I_{R2}	@ $V_R =$ rated V_R $T_J = 125^{\circ}C$	45	mA
Max. Junction Capacitance	C_T	@ $V_R = 5V$, $T_C = 25^{\circ}C$ $f_{SIG} = 1MHz$	2600	pF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	7.5	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μ s

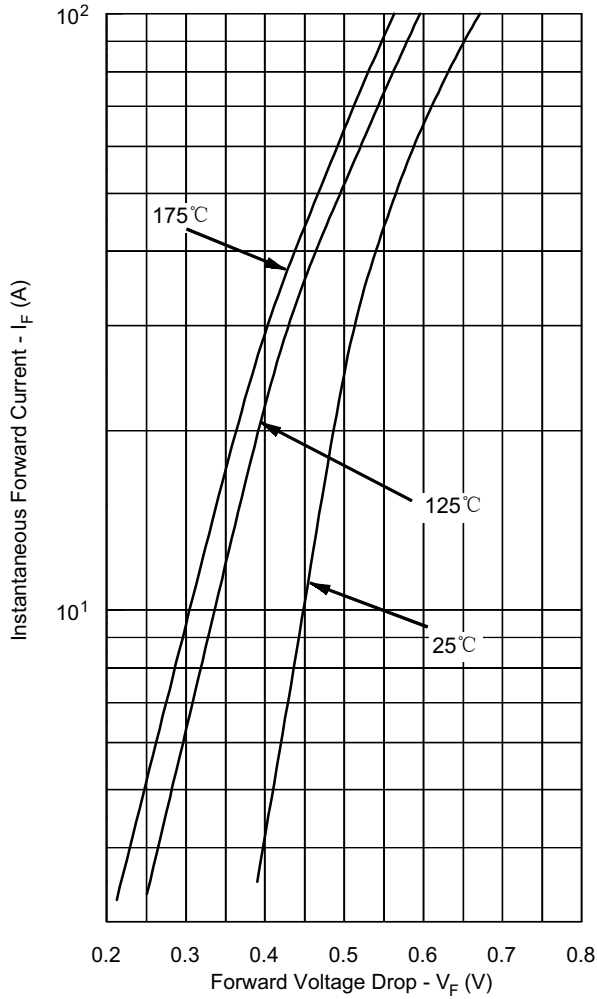
* Pulse Width < 300 μ s, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-65 to +175	$^{\circ}C$
Max. Storage Temperature	T_{stg}	-	-65 to +175	$^{\circ}C$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.83	$^{\circ}C/W$
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.25	$^{\circ}C/W$
Approximate Weight	wt	-	15	g
Mounting Torque	T_M	-	23(Min.) 46(Max.)	Kg-cm
Case Style	DO-5 (DO-203AB)			

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Typical Forward Characteristics



Typical Reverse Characteristics

