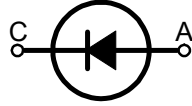
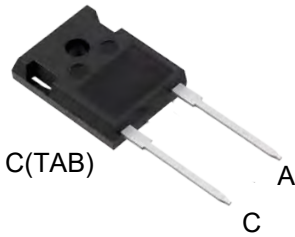


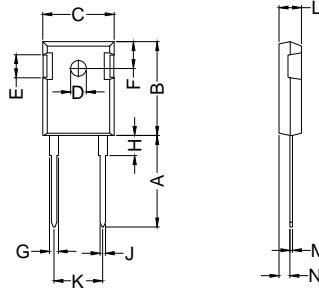
# HUR8040

Soft Recovery Behaviour High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diodes



A=Anode, C=Cathode, TAB=Cathode

Dimensions TO-247AC



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.620	0.640
ØD	3.15	3.65	0.124	0.144
E	4.32	5.49	0.170	0.216
F	5.40	6.30	0.213	0.248
G	1.65	2.13	0.065	0.084
H	3.80	4.50	0.150	0.177
J	1.00	1.40	0.039	0.055
K	10.80	11.10	0.425	0.437
L	4.70	5.30	0.185	0.209
M	0.40	0.80	0.016	0.031
N	1.50	2.49	0.059	0.098

	V <sub>RSM</sub> V	V <sub>RRM</sub> V
<b>HUR8040</b>	400	400



Symbol	Test Conditions	Maximum Ratings	Unit
I <sub>FRMS</sub> I <sub>FAVM</sub>	T <sub>C</sub> =140°C; rectangular, d=0.5	80 80	A
I <sub>FSM</sub>	T <sub>VJ</sub> =45°C; t <sub>p</sub> =10ms (50Hz), sine	800	A
E <sub>AS</sub>	T <sub>VJ</sub> =25°C; non-repetitive; I <sub>AS</sub> =t <sub>b</sub> dA; L=t <sub>b</sub> dU	0.35	mJ
I <sub>AR</sub>	V <sub>A</sub> =1.5·V <sub>R</sub> typ.; f=10kHz; repetitive	0.30	A
T <sub>VJ</sub> T <sub>VJM</sub> T <sub>stg</sub>		-55...+175 175 -55...+150	°C
P <sub>tot</sub>	T <sub>C</sub> =25°C	230	W
M <sub>d</sub>	mounting torque	0.8...1.2	Nm
Weight	typical	6	g

**Sirectifier**<sup>®</sup>

# HUR8040

Soft Recovery Behaviour High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diodes

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
$I_R$	$T_{VJ}=25^{\circ}\text{C}; V_R=V_{RRM}$ $T_{VJ}=150^{\circ}\text{C}; V_R=V_{RRM}$		1 0.4	$\mu\text{A}$ mA
$V_F$	$I_F=80\text{A}; T_{VJ}=150^{\circ}\text{C}$ $T_{VJ}=25^{\circ}\text{C}$		1.11 1.46	V
$R_{thJC}$ $R_{thCH}$		0.25	0.7	K/W
$t_{tr}$	$I_F=1\text{A}; -di/dt=300\text{A}/\mu\text{s}; V_R=30\text{V}; T_{VJ}=25^{\circ}\text{C}$	45		ns
$I_{RM}$	$V_R=100\text{V}; I_F=80\text{A}; -di_F/dt=200\text{A}/\mu\text{s}; T_{VJ}=100^{\circ}\text{C}$	17	19	A

## FEATURES

- \* International standard package
- \* Planar passivated chips
- \* Very short recovery time
- \* Extremely low switching losses
- \* Low  $I_{RM}$ -values
- \* Soft recovery behaviour
- \* RoHS compliant

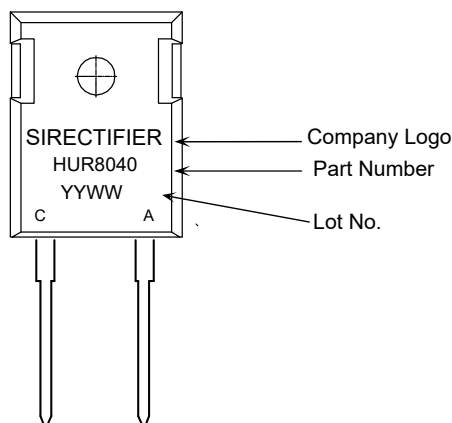
## APPLICATIONS

- \* Antiparallel diode for high frequency switching devices
- \* Antisaturation diode
- \* Snubber diode
- \* Free wheeling diode in converters and motor control circuits
- \* Rectifiers in switch mode power supplies (SMPS)
- \* Inductive heating
- \* Uninterruptible power supplies (UPS)
- \* Ultrasonic cleaners and welders

## ADVANTAGES

- \* Avalanche voltage rated for reliable operation
- \* Soft reverse recovery for low EMI/RFI
- \* Low  $I_{RM}$  reduces:
  - Power dissipation within the diode
  - Turn-on loss in the commutating switch

## MARKING



## ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
HUR8040	TO-247AC	30pcs / Tube	HUR8040

# HUR8040

Soft Recovery Behaviour High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diodes

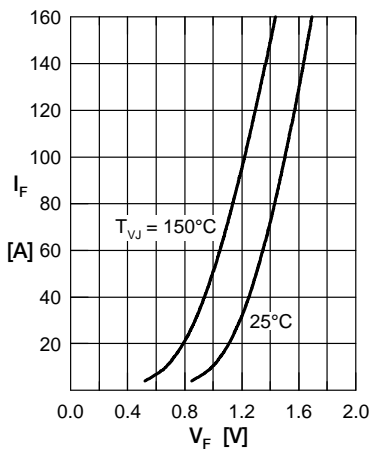


Fig. 1 Forward current  $I_F$  versus  $V_F$

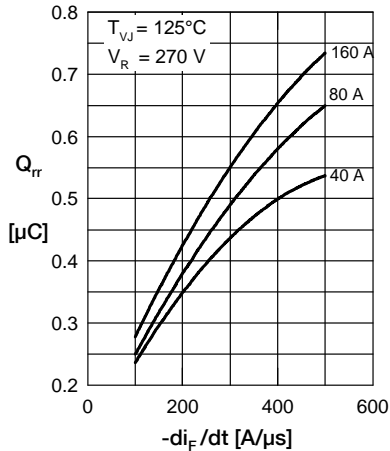


Fig. 2 Typ. reverse recov. charge  $Q_{rr}$  versus  $-di_F/dt$

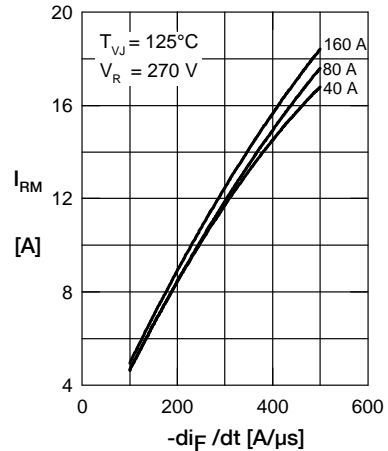


Fig. 3 Typ. reverse recov. current  $I_{RM}$  versus  $-di_F/dt$

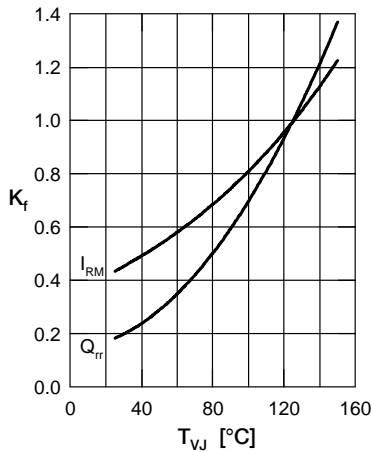


Fig. 4 Typ. dynamic parameters  $Q_{rr}, I_{RM}$  versus  $T_{VJ}$

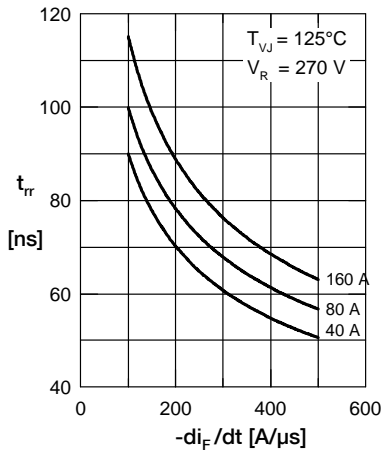


Fig. 5 Typ. reverse recov. time  $t_{rr}$  versus  $-di_F/dt$

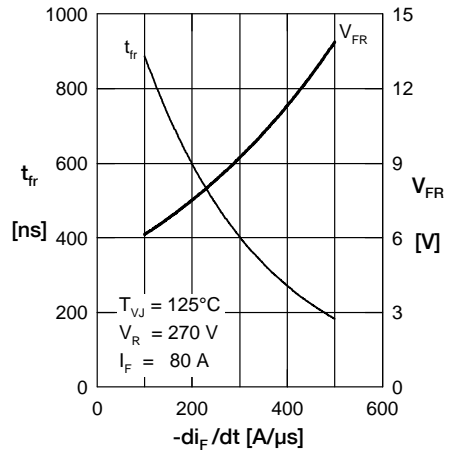


Fig. 6 Typ. forward recovery voltage  $V_{FR}$  & time  $t_{fr}$  versus  $di_F/dt$

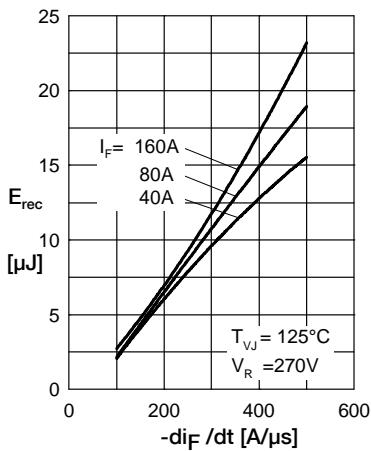


Fig. 7 Typ. recovery energy  $E_{rec}$  versus  $-di_F/dt$

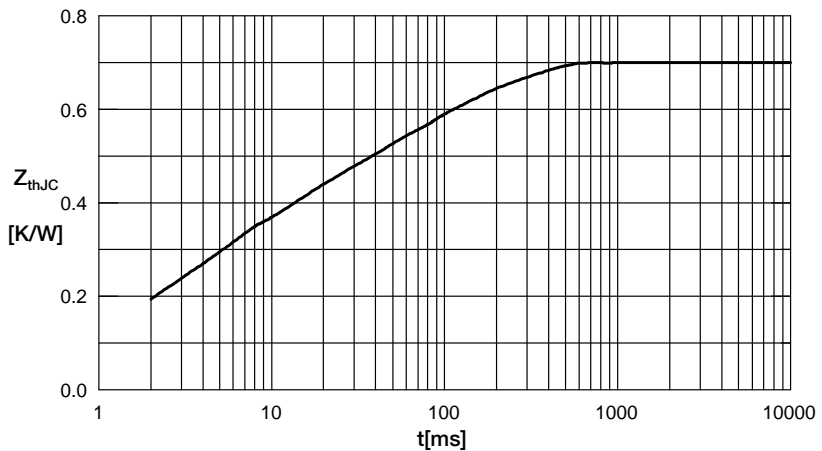


Fig. 8 Transient thermal impedance junction to case