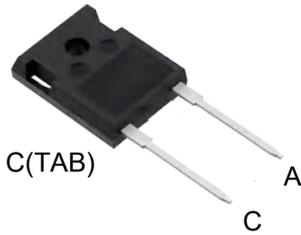


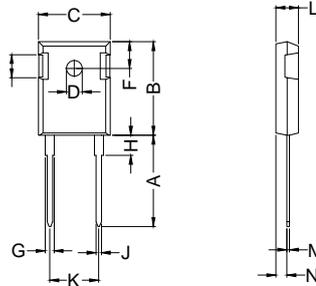
HUR3040

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_{RSM} V	V_{RRM} V
HUR3040	400	400

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS}		70	A
I_{FAVM}	$T_C=140^{\circ}C$; rectangular, $d=0.5$	30	
I_{FSM}	$T_{VJ}=45^{\circ}C$; $t_p=10ms$ (50Hz), sine	tbd	A
E_{AS}	$T_{VJ}=25^{\circ}C$; non-repetitive; $I_{AS}=tbdA$; $L=tbd\mu H$	tbd	mJ
I_{AR}	$V_A=1.5 \cdot V_R$ typ.; $f=10kHz$; repetitive	tbd	A
T_{VJ}		-55...+175	$^{\circ}C$
T_{VJM}		175	
T_{stg}		-55...+150	
P_{tot}	$T_C=25^{\circ}C$	165	W
M_d	mounting torque	0.8...1.2	Nm
Weight	typical	6	g

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Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I _R	T _{VJ} =25°C; V _R =V _{RRM}		250	uA
	T _{VJ} =150°C; V _R =V _{RRM}		1	mA
V _F	I _F =30A; T _{VJ} =150°C		1.11	V
	T _{VJ} =25°C		1.46	
R _{thJC} R _{thCH}		0.25	0.9	K/W
t _{tr}	I _F =1A; -di/dt=300A/us; V _R =30V; T _{VJ} =25°C	30		ns
I _{RM}	V _R =100V; I _F =50A; -diF/dt=100A/us; T _{VJ} =100°C	5.5	6.8	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

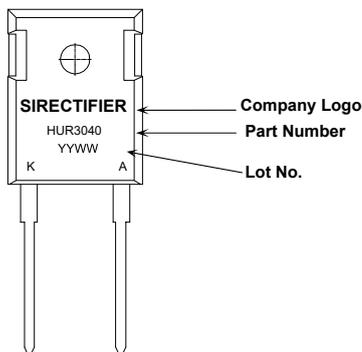
APPLICATIONS

- * 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
HUR3040	TO-247AC	30pcs / Tube	HUR3040

Sirectifier[®]

HUR3040

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

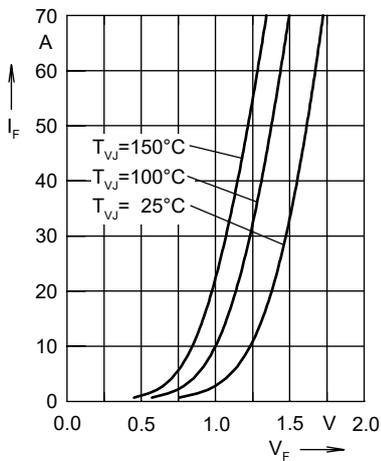


Fig. 1 Forward current I_F versus V_F

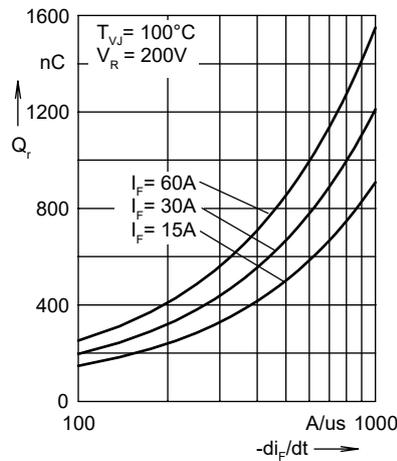


Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

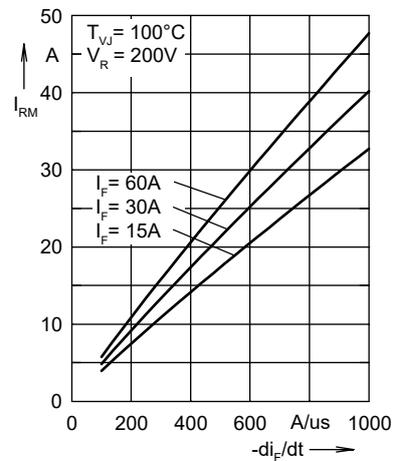


Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

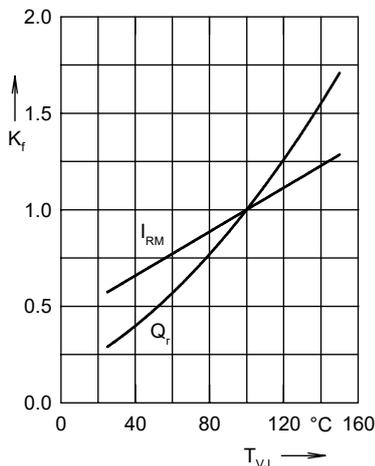


Fig. 4 Dynamic parameters Q_r , I_{RM} versus T_{VJ}

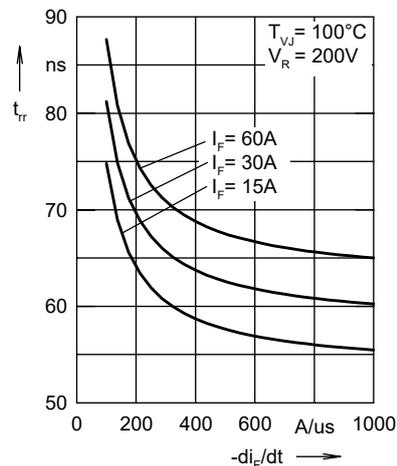


Fig. 5 Recovery time t_{tr} versus $-di_F/dt$

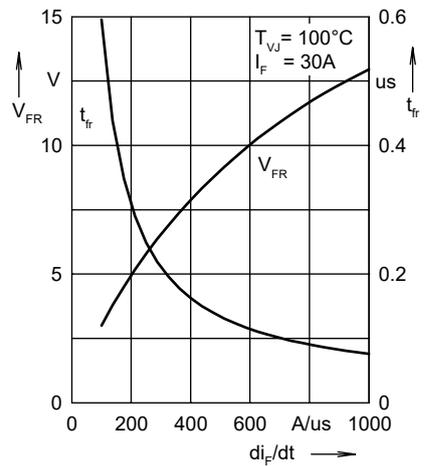


Fig. 6 Peak forward voltage V_{FR} and t_{tr} versus di_F/dt

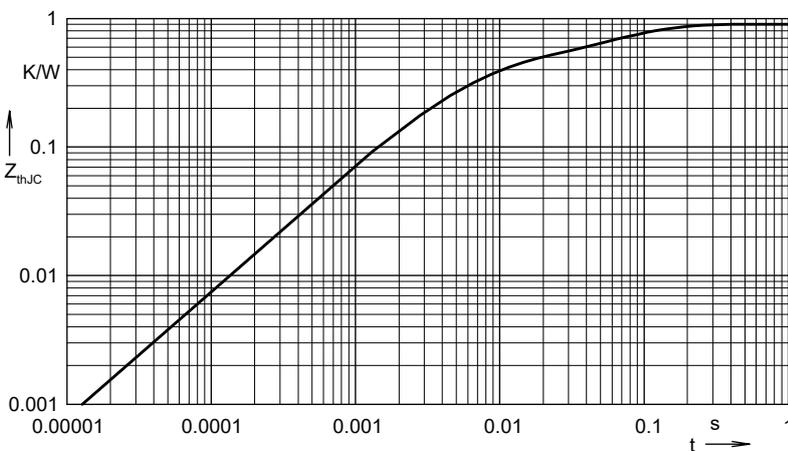


Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

i	$R_{thi}(K/W)$	t_i (s)
1	0.465	0.0052
2	0.179	0.0003
3	0.256	0.0396