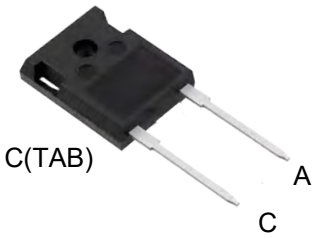
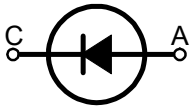
HUR75120

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

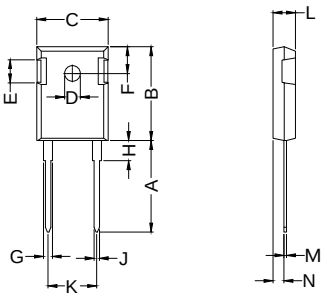




A=Anode, C=Cathode, TAB=Cathode

	V_{RSM} V	V_{RRM} V
HUR75120	1200	1200

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

Symbol	Test Conditions		Maximum Ratings	Unit
I_{FAVM} I_{FRM}	T_C=42°C; rectangular, d=0.5 t_p<10us; rep. rating, pulse width limited by T_{VJM}		75 150	A
I_{FSM}	T_{VJ}=45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	500 560	A
	T_{VJ}=150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	450 510	
I^2t	T_{VJ}=45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	2200 2400	A^2s
	T_{VJ}=150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1950 2100	
T_{VJ} T_{VJM} T_{stg}			-40...+175 175 -40...+150	°C
P_{tot}	T_C=25°C		200	W
M_d	Mounting torque		0.8...1.2	Nm
Weight			6	g

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Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	T_{VJ}=25°C; V_R=V_{RRM} T_{VJ}=25°C; V_R=0.8·V_{RRM} T_{VJ}=125°C; V_R=0.8·V_{RRM}		100 80 2.0	uA uA mA
V_F	I_F=75A; T_{VJ}=150°C T_{VJ}=25°C	2.00 2.70	2.55 3.20	V
V_{TO}	For power-loss calculations only		1.25	V
r_T	T_{VJ}=T_{VJM}		5.2	mΩ
R_{thJC} R_{thCK} R_{thJA}		0.23	0.32 33	K/W
t_{rr}	I_F=1A; -di/dt=200A/us; V_R=30V; T_{VJ}=25°C		85	ns
t_{rr}	I_F=75A; -di/dt=200A/us; V_R=30V; T_{VJ}=25°C		100	ns
ta	Time to Reach Peak Reverse Current, I_F = 75 A, dI_F/dt = 100 A/us	60		
tb	Time from Peak IRM to Projected Zero Crossing of IRM Based on a Straight Line from Peak IRM through 25% of IRM I_F = 75 A, dI_F/dt = 100 A/us	25		
I_{RM}	V_R=350V; I_F=75A; -di_F/dt=200A/us; L≤0.05uH; T_{VJ}=100°C	25	30	A

FEATURES

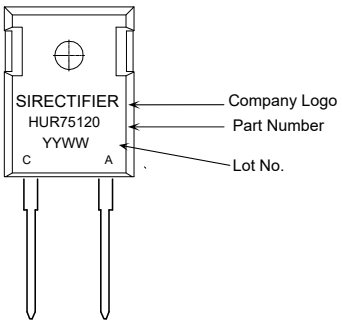
* International standard package TO-247AC
* Planar passivatd chips
* Very short recovery time
* Extremely low switching losses
* Low I_{RM}-values
* Soft recovery behaviour
* RoHS compliant

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 and melting
* Uninterruptible power supplies (UPS)
* Ultrasonic cleaners and welders

ADVANTAGES

* High reliability circuit operation
* Low voltage peaks for reduced protection circuits
* Low noise switching
* Low losses
* Operating at lower temperature or space saving by reduced cooling



MARKING

ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
HUR75120	TO-247AC	30pcs / Tube	HUR75120

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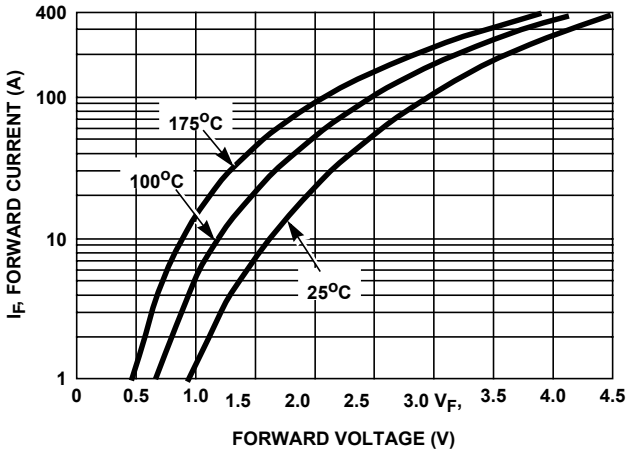

FIGURE 1. FORWARD CURRENT vs FORWARD VOLTAGE

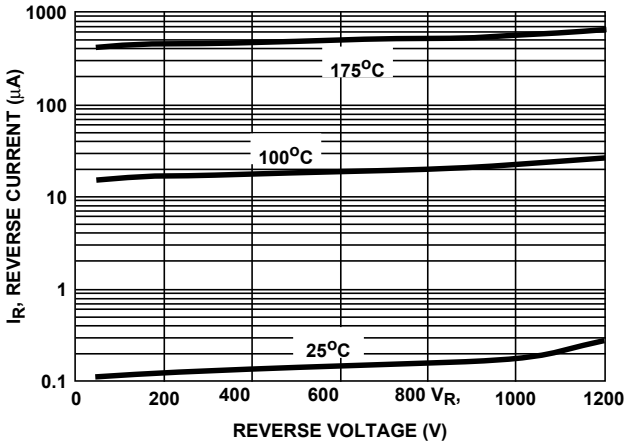

FIGURE 2. REVERSE CURRENT vs REVERSE VOLTAGE

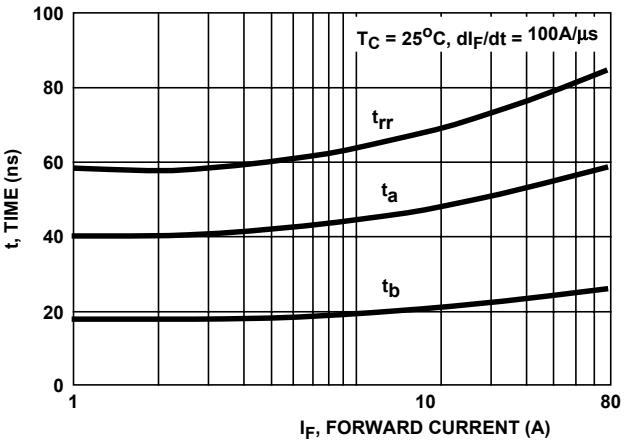

FIGURE 3. t_{rr}, t_a AND t_b CURVES vs FORWARD CURRENT

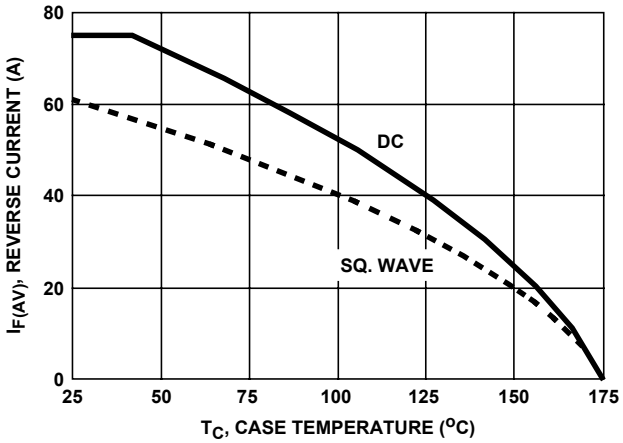

FIGURE 4. CURRENT DERATING CURVE

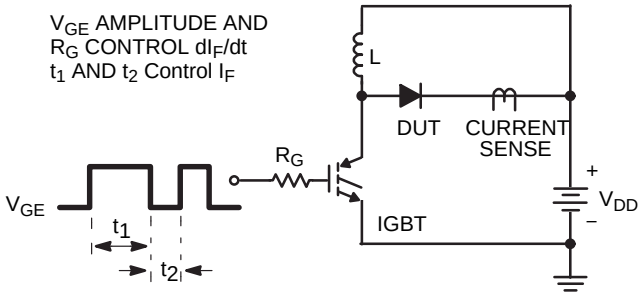

Figure 5. T_{rr} Test Circuit

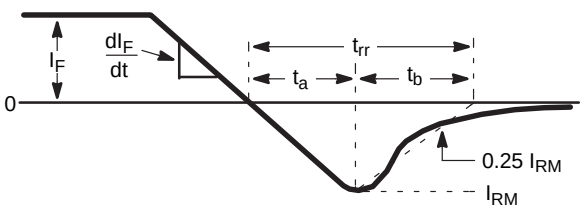

Figure 6. T_{rr} Waveforms and Definitions

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