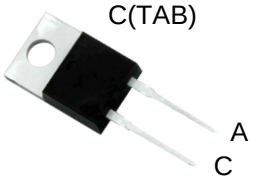
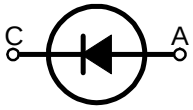
HUR20120

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

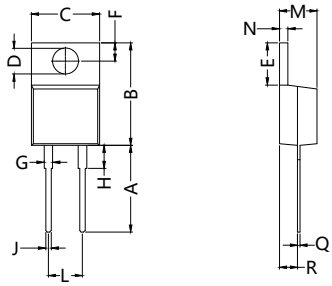




A=Anode, C=Cathode, TAB=Cathode

	V_{RSM} V	V_{RRM} V
HUR20120	1200	1200

Dimensions TO-220AC



Dim.	Millimeter	
	Min.	Max.
A	12.70	13.97
B	14.73	16.00
C	9.91	10.66
ØD	3.54	4.08
E	5.85	6.85
F	2.54	3.18
G	1.15	1.65
H	2.79	5.84
J	0.64	1.01
L	5.05BSC	
M	4.32	4.82
N	1.14	1.39
Q	0.35	0.56
R	2.29	2.79

Symbol	Test Conditions		Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FRM}	$T_{VJ}=T_{VJM}$ $T_C=85^oC$; rectangular, d=0.5 t_p<10us; rep. rating, pulse width limited by T_{VJM}		70 20 220	A
I_{FSM}	$T_{VJ}=45^oC$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	130 140	A
	$T_{VJ}=150^oC$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	110 120	
I^2t	$T_{VJ}=45^oC$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	85 80	A^2s
	$T_{VJ}=150^oC$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	60 60	
T_{VJ} T_{VJM} T_{stg}			-40...+175 175 -40...+150	^oC
P_{tot}	$T_C=25^oC$		78	W
M_d	Mounting torque		0.4...0.6	Nm
Weight			2	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}		50 50 2	uA uA mA
V_F	I_F=20A; T_{VJ}=150°C T_{VJ}=25°C		1.87 2.15	V
V_{TO}	For power-loss calculations only		1.65	V
r_T	T_{VJ}=T_{VJM}		18.2	mΩ
R_{thJC} R_{thJA}			1.6 60	K/W
t_{rr}	I_F=1A; -di/dt=100A/us; V_R=30V; T_{VJ}=25°C	40	60	ns
I_{RM}	V_R=540V; I_F=20A; -di_F/dt=100A/us; L≤0.05uH; T_{VJ}=100°C	7		A

FEATURES

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

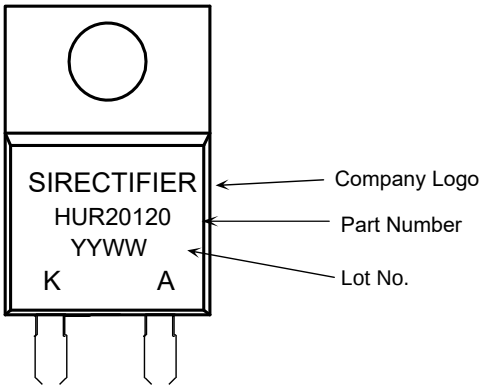
APPLICATIONS

* Antiparallel diode for high frequency switching devices
* Anti saturation 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
HUR20120	TO-220AC	50pcs / Tube	HUR20120

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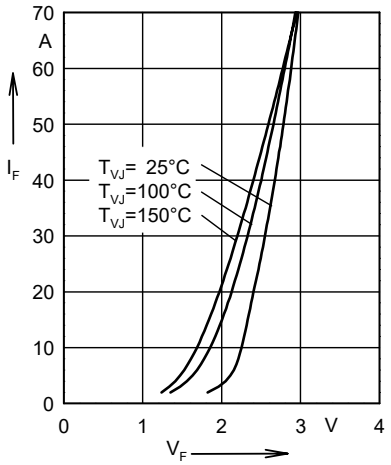

Fig. 1 Forward current versus voltage drop.

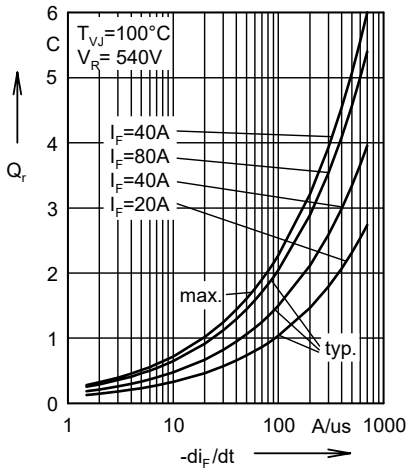

Fig. 2 Recovery charge versus $-di_F/dt$.

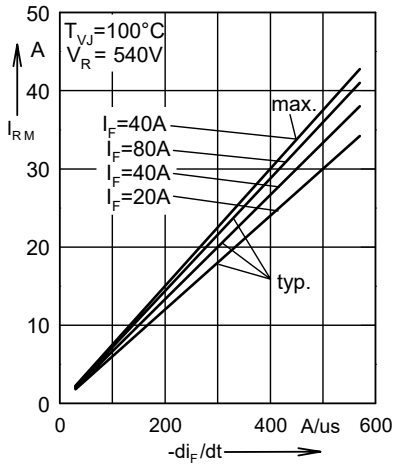

Fig. 3 Peak reverse current versus $-di_F/dt$.

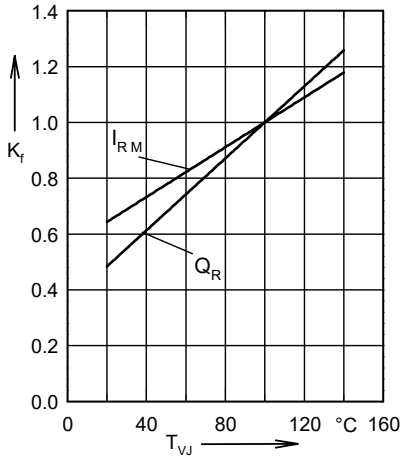

Fig. 4 Dynamic parameters versus junction temperature.

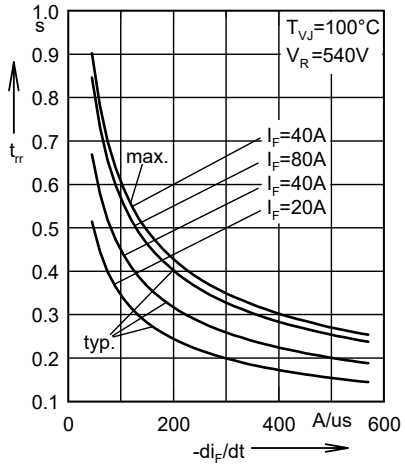

Fig. 5 Recovery time versus $-di_F/dt$.

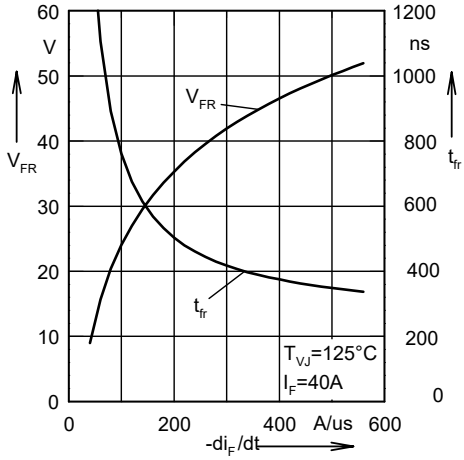

Fig. 6 Peak forward voltage versus di_F/dt.

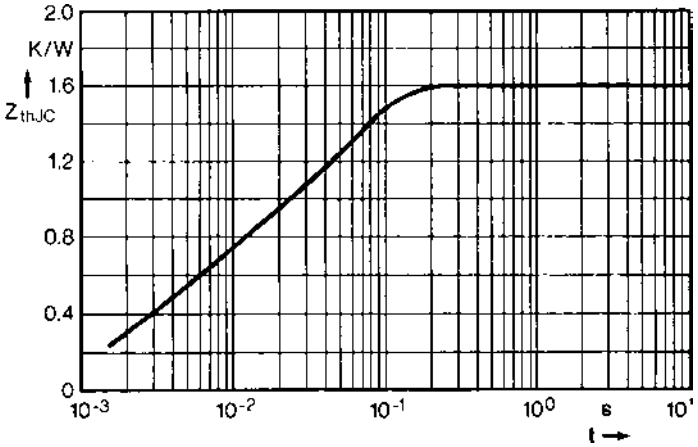

Fig. 7 Transient thermal impedance junction to case.

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