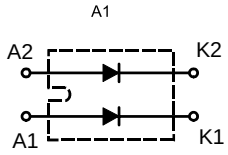
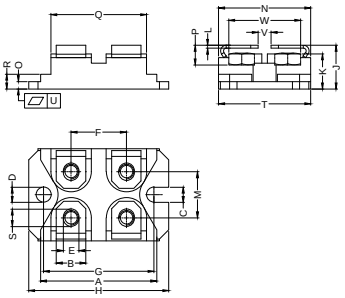
HUR2x120-20

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



	V_{RSM} V	V_{RRM}
HUR2x120-20	200	200

Dimensions SOT -227



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	31.30	31.65	M	12.00	13.00
B	7.80	8.40	N	25.15	25.65
C	4.00	4.30	O	1.95	2.15
D	Ø4.00	Ø4.30	P	5.60	6.60
E	4.00	4.30	Q	25.30	26.30
F	14.90	15.20	R	3.90	4.30
G	30.10	30.30	S	4.45	4.85
H	38.00	38.50	T	24.50	25.10
J	12.10	12.90	U	0.05	0.10
K	9.00	9.60	V	3.00	4.80
L	0.75	0.85	W	19.30	20.50

Symbol	Test Conditions		Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FRM}	$T_{VJ}=T_{VJM}$ $T_C=70^oC$; rectangular, d=0.5 per chip $t_p<10us$; rep. rating, pulse width limited by T_{VJM}		150 120 600	A
I_{FSM}	$T_{VJ}=45^oC$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1200 1300	A
	$T_{VJ}=150^oC$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1080 1170	
I^2t	$T_{VJ}=45^oC$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	7200 7100	A^2s
	$T_{VJ}=150^oC$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	5800 5700	
T_{VJ} T_{VJM} T_{stg}			-40...+175 150 -40...+150	^oC
P_{tot}	$T_C=25^oC$		250	W
V_{ISOL}	50/60Hz, RMS $I_{ISOL}\leq 1mA$		2500	V~
M_d	Mounting torque (M4) Terminal connection torque (M4)		1.5/13 1.5/13	Nm/lb.in.
Weight			30	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}		1 0.5 20	mA
V_F	I_F=120A; T_{VJ}=150°C T_{VJ}=25°C	0.89	0.95 1.10	V
V_{FO}	For power-loss calculations only		0.7	V
r_F	T_{VJ}=T_{VJM}		2.1	mΩ
R_{thJC} R_{thCK}		1.0	0.5	K/W
t_{rr}	I_F=1A; -di/dt=400A/us; V_R=30V; T_{VJ}=25°C	30	35	ns
I_{RM}	V_R=100V; I_F=100A; -di$_F$/dt=200A/us; L<0.05uH; T_{VJ}=100°C	12	15	A

FEATURES

* International standard package SOT-227
* Isolation voltage 2500 V~
* 2 independent FRED in 1 package
* Planar passivatd chips
* Very short recovery time
* Extremely low switching losses
* Low I_{RM}-values
* Soft recovery behaviour
* UL File NO.E310749
* 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

ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
HUR2x120-20	SOT-227	10pcs / Tube	HUR2x120-20

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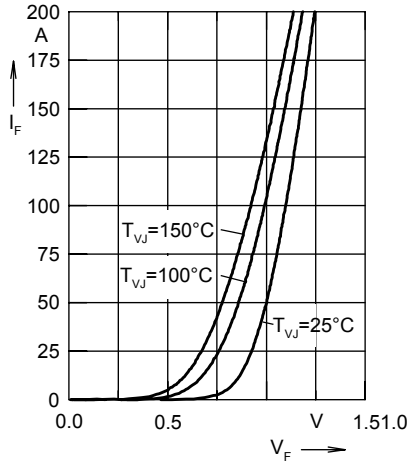

Fig. 1 Forward current I_F versus V_F

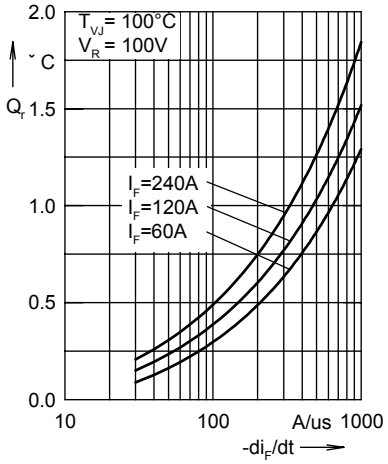

Fig. 2 Typ. reverse recovery charge Q_r versus -di_F/dt

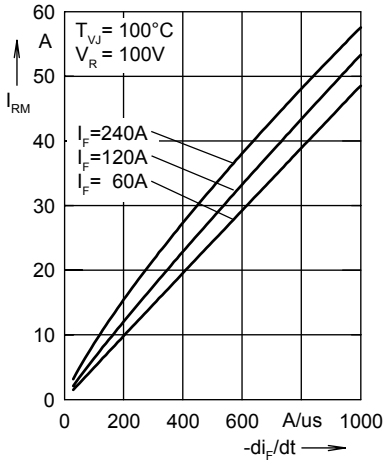

Fig. 3 Typ. peak reverse current I_{RM} versus -di_F/dt

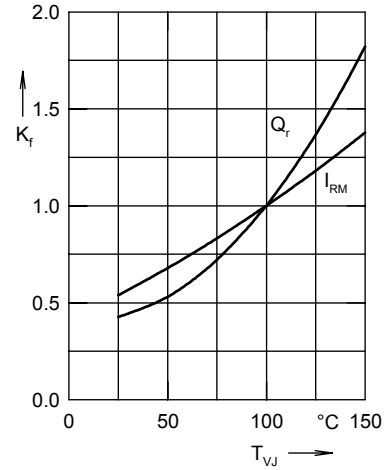

Fig. 4 Dynamic parameters Q_r, I_{RM} versus T_{VJ}

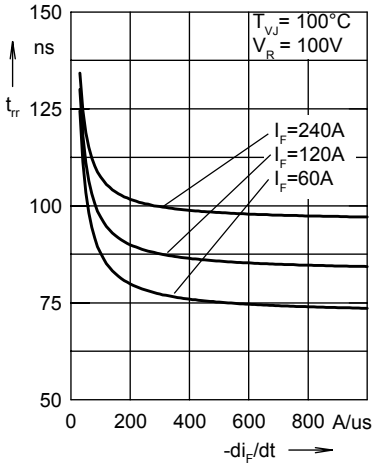

Fig. 5 Typ. recovery time t_{rr} versus -di_F/dt

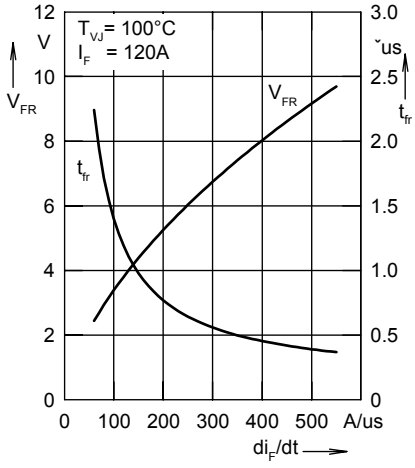

Fig. 6 Typ. peak forward voltage V_{FR} and t_{fr} versus di_F/dt

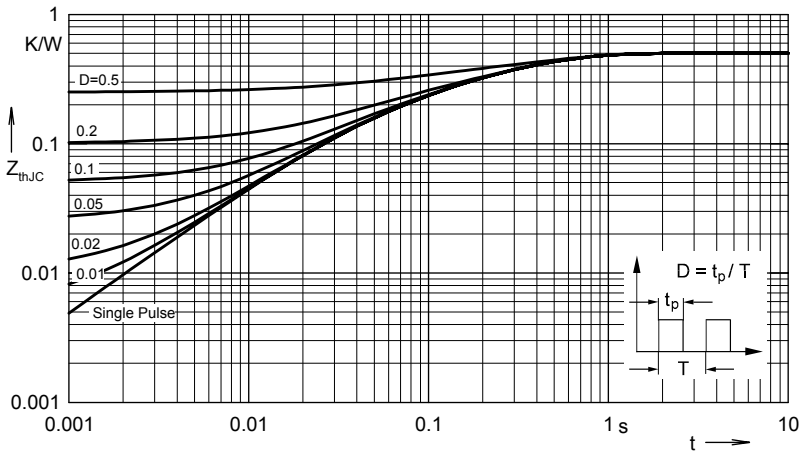

Fig. 7 Transient thermal impedance junction to case at various duty cycles

Constants for Z_{thJC} calculation:

i	R_{thi}(K/W)	t_i (s)
1	0.0725	0.028
2	0.1423	0.092
3	0.2852	0.35

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