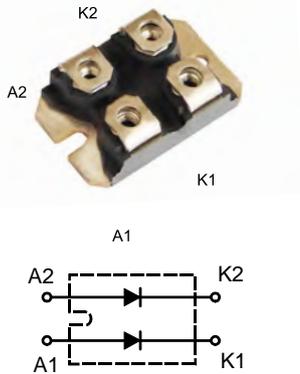
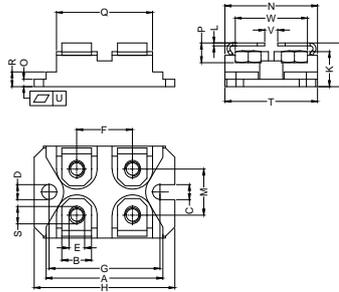


HUR2x120-20

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



Dimensions SOT -227(ISOTOP)



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	∅4.00	∅4.30	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

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



Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS}	$T_{VJ}=T_{VJM}$	150	A
I_{FAVM}	$T_C=70^{\circ}C$; rectangular, $d=0.5$ per chip	120	
I_{FRM}	$t_p < 10\mu s$; rep. rating, pulse width limited by T_{VJM}	600	
I_{FSM}	$T_{VJ}=45^{\circ}C$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	A
	$T_{VJ}=150^{\circ}C$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	
I^2t	$T_{VJ}=45^{\circ}C$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	A^2s
	$T_{VJ}=150^{\circ}C$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	
T_{VJ} T_{VJM} T_{stg}		-40...+175 150 -40...+150	$^{\circ}C$
P_{tot}	$T_C=25^{\circ}C$	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



HUR2x120-20

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

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	$T_{VJ}=25^{\circ}C$; $V_R=V_{RRM}$ $T_{VJ}=25^{\circ}C$; $V_R=0.8 \cdot V_{RRM}$ $T_{VJ}=125^{\circ}C$; $V_R=0.8 \cdot V_{RRM}$		1 0.5 20	mA
V_F	$I_F=120A$; $T_{VJ}=150^{\circ}C$ $T_{VJ}=25^{\circ}C$	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	m Ω
R_{thJC} R_{thCK}		1.0	0.5	K/W
t_{tr}	$I_F=1A$; $-di/dt=400A/\mu s$; $V_R=30V$; $T_{VJ}=25^{\circ}C$	30	35	ns
I_{RM}	$V_R=100V$; $I_F=100A$; $-di_F/dt=200A/\mu s$; $L<0.05\mu H$; $T_{VJ}=100^{\circ}C$	12	15	A

FEATURES

- * International standard package SOT-227
- * Isolation voltage 2500 V~
- * 2 independent FRED in 1 package
- * Planar passivated chips
- * Very short recovery time
- * Extremely low switching losses
- * Low I_{RM} -values
- * Soft recovery behaviour
- * Wide temperature range
- * Ultra fast recovery

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

Sirectifier[®]

HUR2x120-20

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

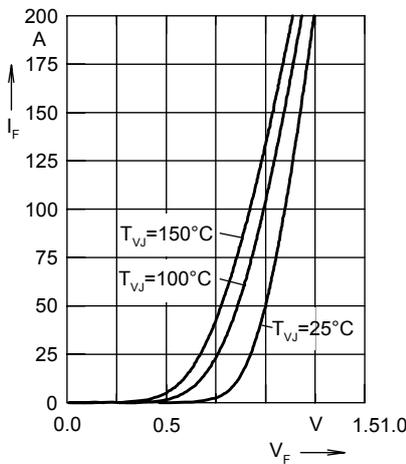


Fig. 1 Forward current I_F versus V_F

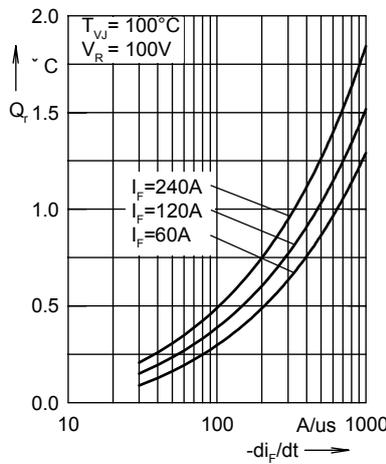


Fig. 2 Typ. reverse recovery charge Q_r versus $-di_F/dt$

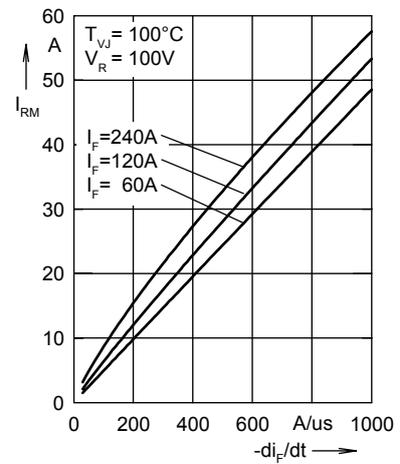


Fig. 3 Typ. peak reverse current I_{RM} versus $-di_F/dt$

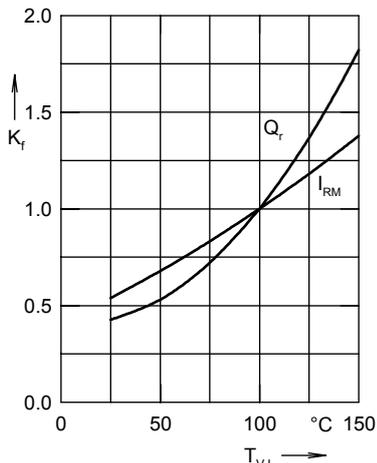


Fig. 4 Dynamic parameters Q_r , I_{RM} versus T_{VJ}

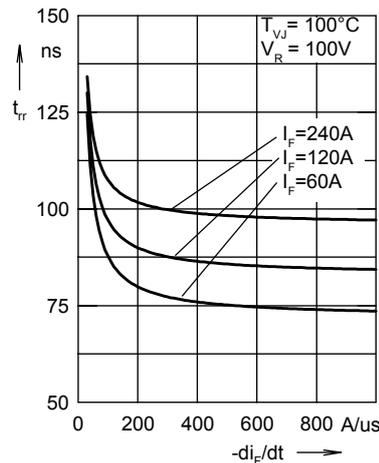


Fig. 5 Typ. recovery time t_{tr} versus $-di_F/dt$

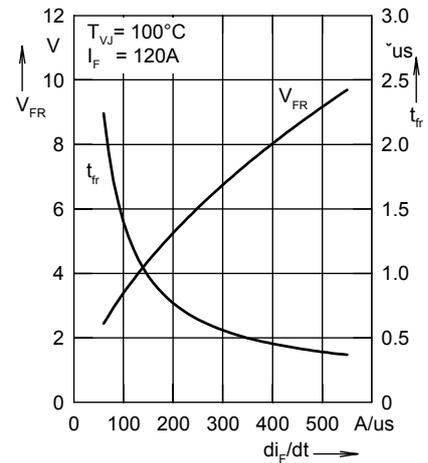


Fig. 6 Typ. peak forward voltage V_{FR} and t_{tr} versus di_F/dt

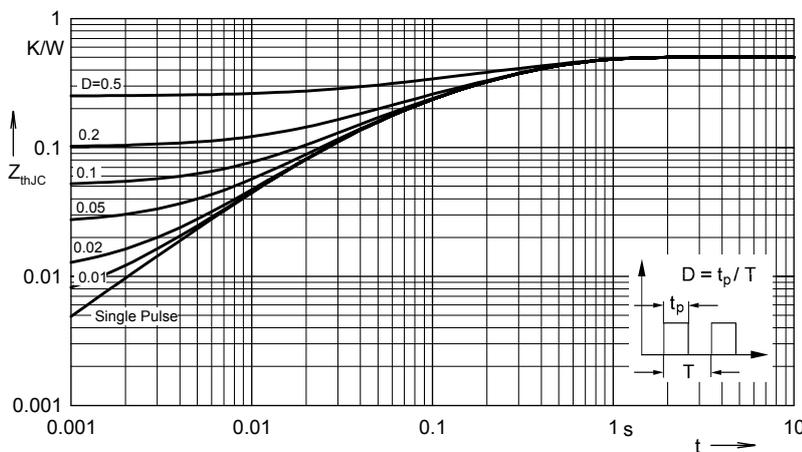


Fig. 7 Transient thermal impedance junction to case at various duty cycles

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