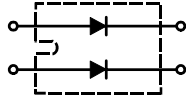
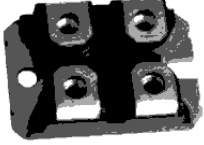
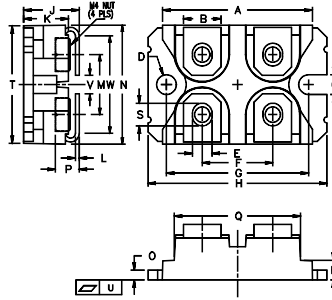


HUR2x30-100, HUR2x30-120

High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diode



Dimensions SOT-227(ISOTOP)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.20	1.489	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.76	0.84	0.030	0.033
M	12.60	12.85	0.496	0.506
N	25.15	25.42	0.990	1.001
O	1.98	2.13	0.078	0.084
P	4.95	5.97	0.195	0.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.174
S	4.72	4.85	0.186	0.191
T	24.59	25.07	0.968	0.987
U	-0.05	0.1	-0.002	0.004
V	3.30	4.57	0.130	0.180
W	0.780	0.830	0.031	0.033

	V_{RSM}	V_{RRM}
	V	V
HUR2x30-100	1000	1000
HUR2x30-120	1200	1200

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM}	$T_C=70^{\circ}C$; rectangular, $d=0.5$	70 30	A
I_{FSM}	$T_{VJ}=45^{\circ}C$; $t_p=10ms$ (50Hz), sine	200	A
E_{AS}	$T_{VJ}=25^{\circ}C$; non-repetitive; $I_{AS}=12A$; $L=180\mu H$	14	mJ
I_{AR}	$V_A=1.25 \cdot V_R$ typ.; $f=10kHz$; repetitive	1.2	A
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	$^{\circ}C$
P_{tot}	$T_C=25^{\circ}C$	110	W
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1mA$	2500	V~
M_d	mounting torque (M4) terminal connection torque (M4)	1.1-1.5/9-13 1.1-1.5/9-13	Nm/lb.in.
Weight	typical	30	g

Sirectifier®

HUR2x30-100, HUR2x30-120

High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diode

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	$T_{VJ}=25^{\circ}\text{C}; V_R=V_{RRM}$ $T_{VJ}=150^{\circ}\text{C}; V_R=V_{RRM}$		0.25 1	mA
V_F	$I_F=30\text{A}; T_{VJ}=125^{\circ}\text{C}$ $T_{VJ}=25^{\circ}\text{C}$		1.96 2.72	V
R_{thJC} R_{thCH}		0.1	1.15	K/W
t_{rr}	$I_F=1\text{A}; -di/dt=200\text{A}/\mu\text{s}; V_R=30\text{V}; T_{VJ}=25^{\circ}\text{C}$	40		ns
I_{RM}	$V_R=100\text{V}; I_F=50\text{A}; -di_F/dt=100\text{A}/\mu\text{s}; T_{VJ}=100^{\circ}\text{C}$	5.5		A

FEATURES

- * International standard package miniBLOC
- * 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

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

Sirectifier®

HUR2x30-100, HUR2x30-120

High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diode

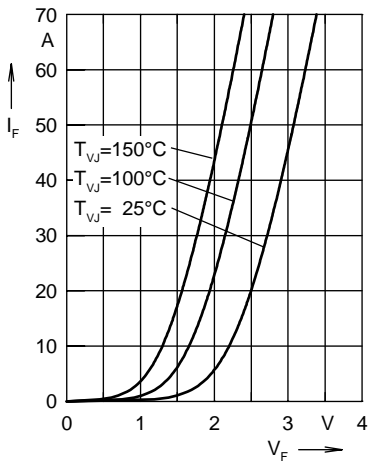


Fig. 1 Forward current I_F versus V_F

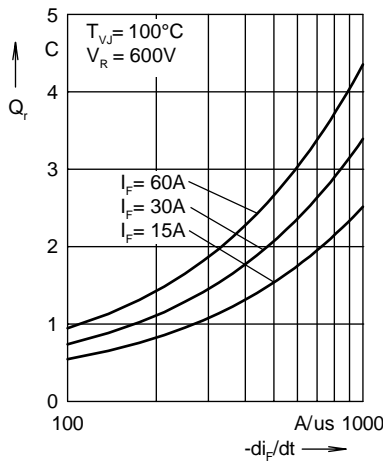


Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

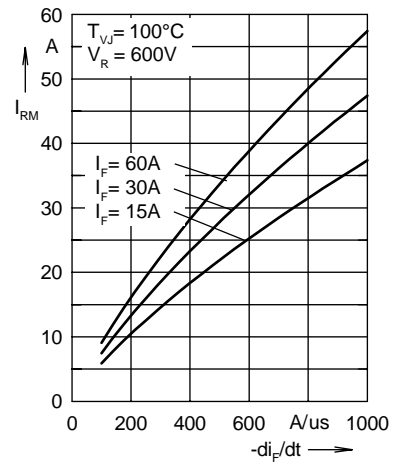


Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

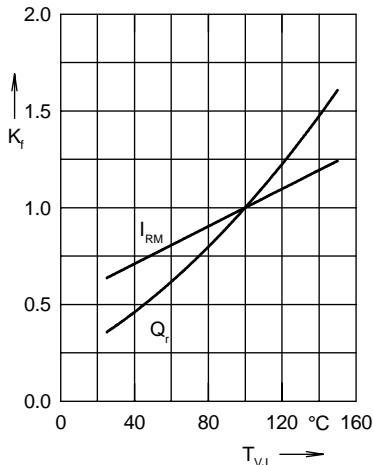


Fig. 4 Dynamic parameters Q_r , I_{RM} versus T_{VJ}

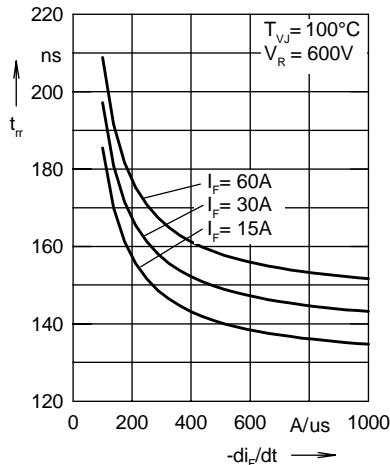


Fig. 5 Recovery time t_{tr} versus $-di_F/dt$

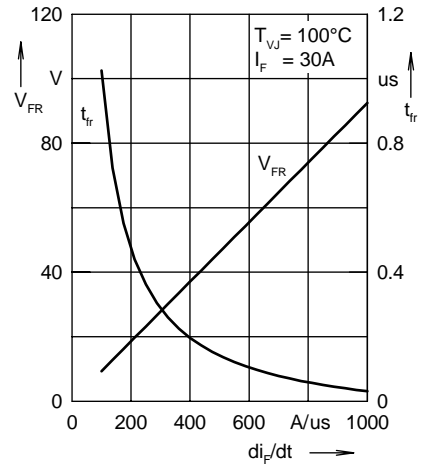


Fig. 6 Peak forward voltage V_{FR} and t_{tr} versus di_F/dt

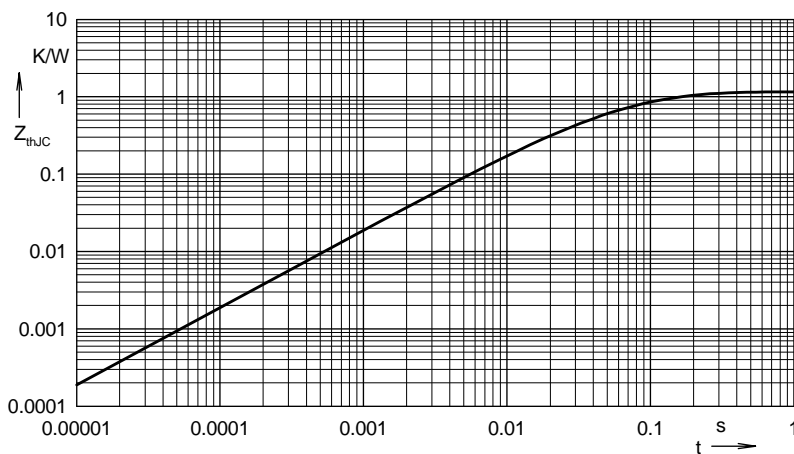


Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.436	0.0056
2	0.482	0.0092
3	0.117	0.0007
4	0.115	0.0418