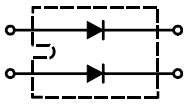
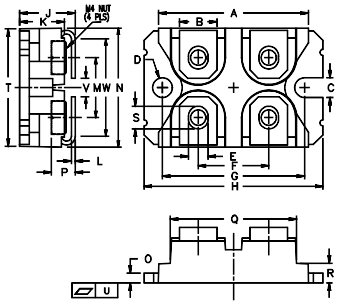
HUR2x60-30, HUR2x60-40

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



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	19.81	21.08

	V_{RSM}	V_{RRM}
	V	V
HUR2x60-30	300	300
HUR2x60-40	400	400

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM}	T_C=75°C; rectangular, d=0.5	100 60	A
I_{FSM}	T_{VJ}=45°C; t_p=10ms (50Hz), sine	600	A
E_{AS}	T_{VJ}=25°C; non-repetitive; I_{AS}=4A; L=180uH	1.6	mJ
I_{AR}	V_A=1.5·V_R typ.; f=10kHz; repetitive	0.4	A
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	°C
P_{tot}	T_C=25°C	140	W
V_{ISOL}	50/60Hz, RMS I_{ISOL}≤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

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Symbol	Test Conditions	Characteristic Values typ.	max.	Unit
I_R	T_{VJ}=25°C; V_R=V_{RRM} T_{VJ}=150°C; V_R=V_{RRM}		0.65 2.5	mA
V_F	I_F=60A; T_{VJ}=125°C T_{VJ}=25°C		1.26 1.68	V
R_{thJC} R_{thCH}		0.1	0.85	K/W
t_{rr}	I_F=1A; -di/dt=300A/us; V_R=30V; T_{VJ}=25°C	30		ns
I_{RM}	V_R=100V; I_F=130A; -di$_F$/dt=100A/us; T_{VJ}=100°C		4.8	A

FEATURES

* International standard package miniBLOC
* Isolation voltage 2500 V~
* 2 independent FRED in 1 package
* Glass passivated 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
* 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

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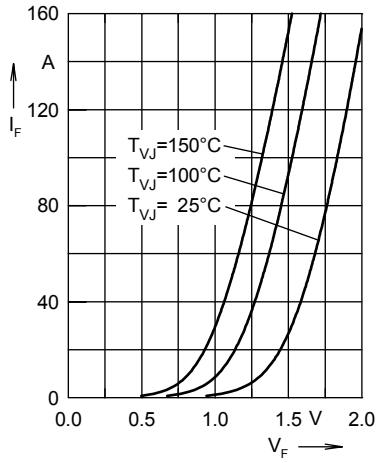

Fig. 1 Forward current I_F versus V_F

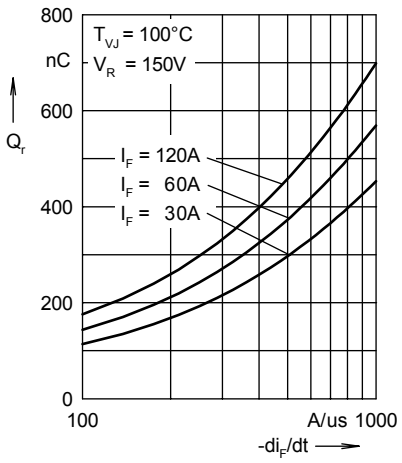

Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

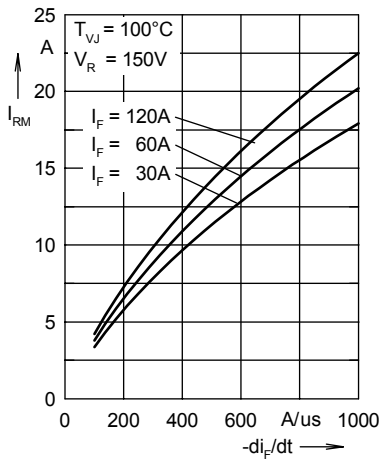

Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

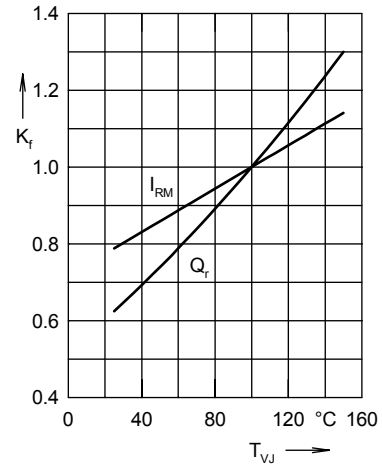

Fig. 4 Dynamic parameters Q_r, I_{RM} versus T_{VJ}

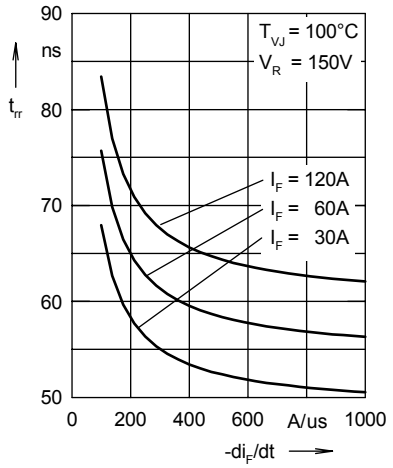

Fig. 5 Recovery time t_{rr} versus $-di_F/dt$

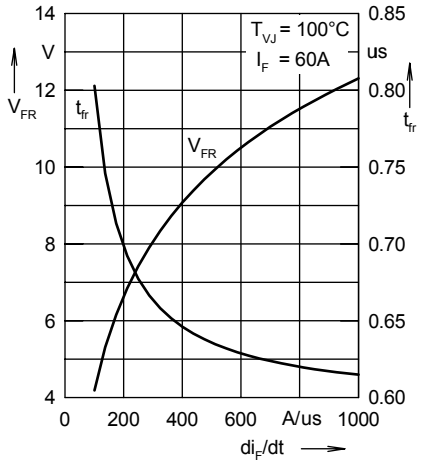

Fig. 6 Peak forward voltage V_{FR} and t_{fr} versus di_F/dt

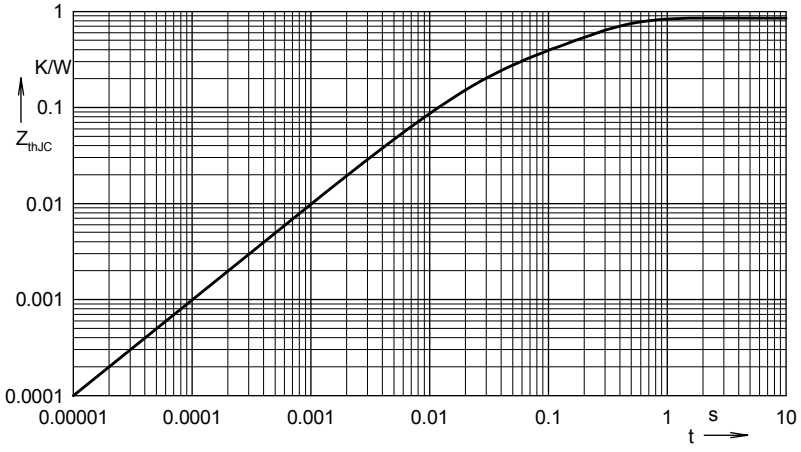

Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.307	0.0055
2	0.353	0.009
3	0.089	0.0007
4	0.101	0.04

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