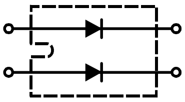
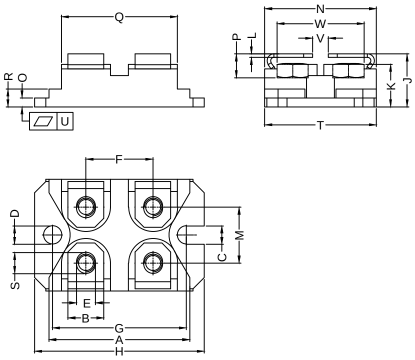
HUR2x60-60

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	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

	V_{RSM} V	V_{RRM} V
HUR2x60-60	600	600

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM}	 T_C=65^{o}C; rectangular, d=0.5	100 60	A
I_{FSM}	T_{VJ}=45^{o}C; t_p=10ms (50Hz), sine	600	A
E_{AS}	T_{VJ}=25^{o}C; non-repetitive; I_{AS}=2A; L=180uH	0.3	mJ
I_{AR}	V_A=1.5·V_R typ.; f=10kHz; repetitive	0.2	A
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	^{o}C
P_{tot}	T_C=25^{o}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		Unit
		typ.	max.	
I_R	$T_{VJ}=25^oC$; $V_R=V_{RRM}$ $T_{VJ}=150^oC$; $V_R=V_{RRM}$		0.65 2.5	mA
V_F	$I_F=60A$; $T_{VJ}=125^oC$ $T_{VJ}=25^oC$		1.48 2.01	V
R_{thJC} R_{thCH}		 0.1	0.85	K/W
t_{rr}	$I_F=1A$; $-di/dt=300A/us$; $V_R=30V$; $T_{VJ}=25^oC$	35		ns
I_{RM}	$V_R=100V$; $I_F=130A$; $-di_F/dt=100A/us$; $T_{VJ}=100^oC$		8.3	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
* UL File NO.E310749
* RoHS compliance

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®

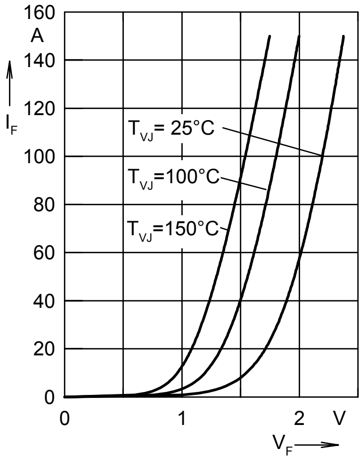

Fig. 1 Forward current I_F versus V_F

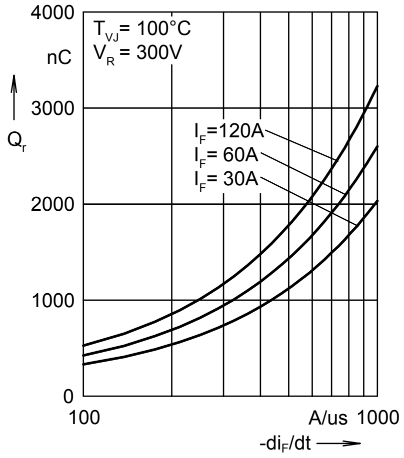

Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

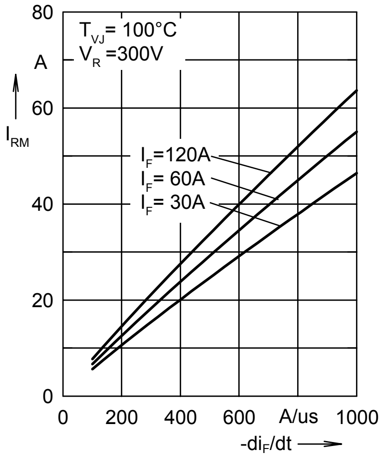

Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

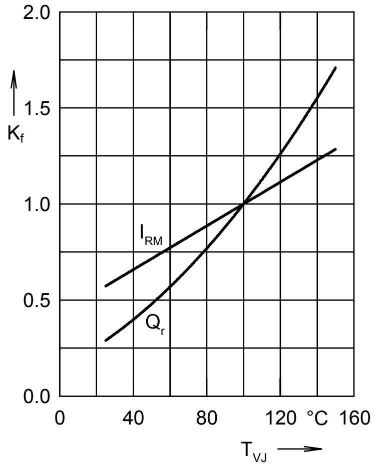

Fig. 4 Dynamic parameters Q_r, I_{RM} versus T_{VJ}

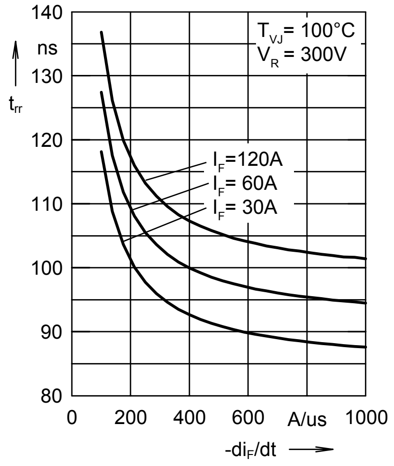

Fig. 5 Recovery time t_{rr} versus $-di_F/dt$

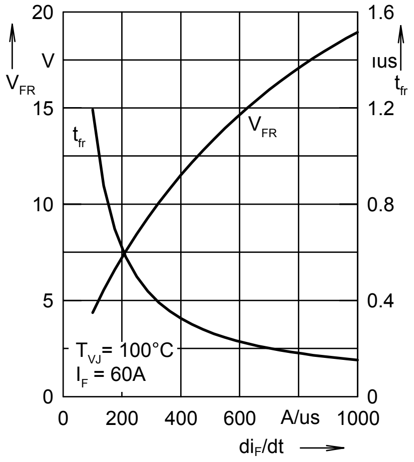

Fig. 6 Peak forward voltage V_{FR} and t_{fr} versus di_F/dt

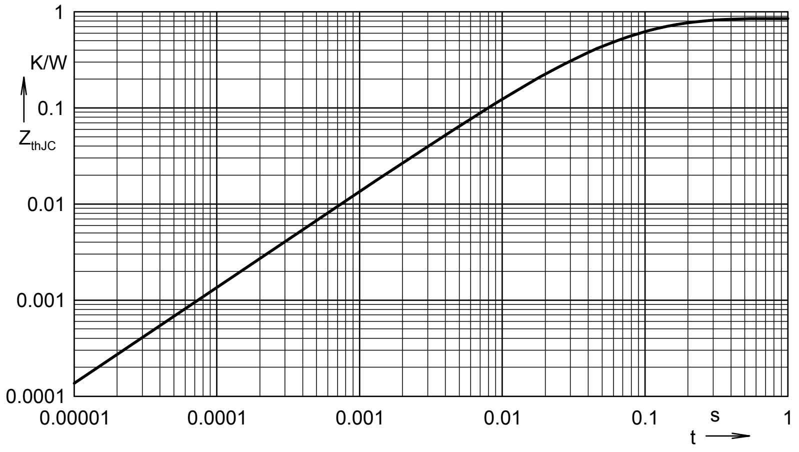

Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi}(K/W)	t_i(s)
1	0.3073	0.0055
2	0.3533	0.0092
3	0.0887	0.0007
4	0.1008	0.0399