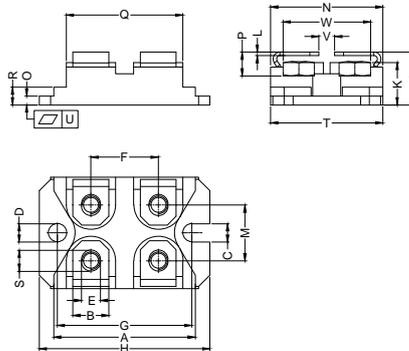


HUR2x60-30, HUR2x60-40

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
HUR2x60-30	300	300
HUR2x60-40	400	400



Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM}	$T_C=75^\circ\text{C}$; rectangular, $d=0.5$	100 60	A
I_{FSM}	$T_{VJ}=45^\circ\text{C}$; $t_p=10\text{ms}$ (50Hz), sine	600	A
E_{AS}	$T_{VJ}=25^\circ\text{C}$; non-repetitive; $I_{AS}=4\text{A}$; $L=180\mu\text{H}$	1.6	mJ
I_{AR}	$V_A=1.5 \cdot V_R$ typ.; $f=10\text{kHz}$; repetitive	0.4	A
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	$^\circ\text{C}$
P_{tot}	$T_C=25^\circ\text{C}$	140	W
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1\text{mA}$	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

HUR2x60-30, HUR2x60-40

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

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

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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

HUR2x60-30, HUR2x60-40

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

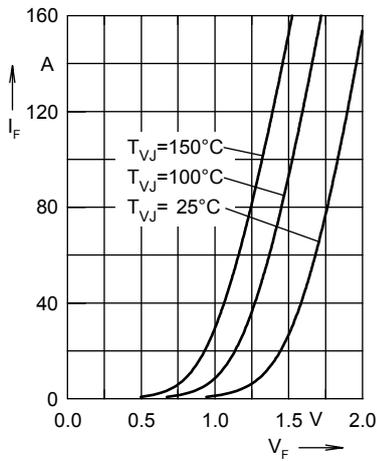


Fig. 1 Forward current I_F versus V_F

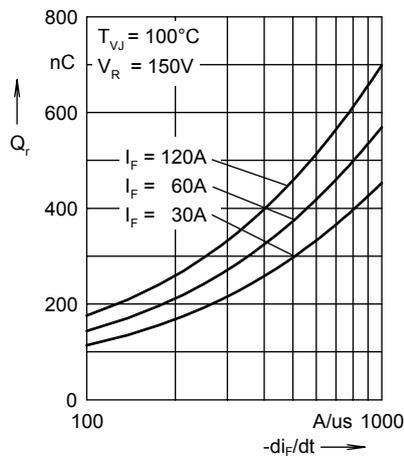


Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

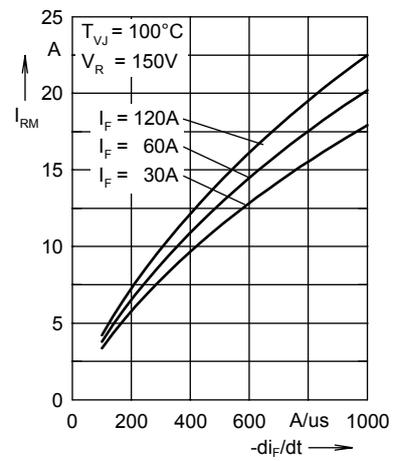


Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

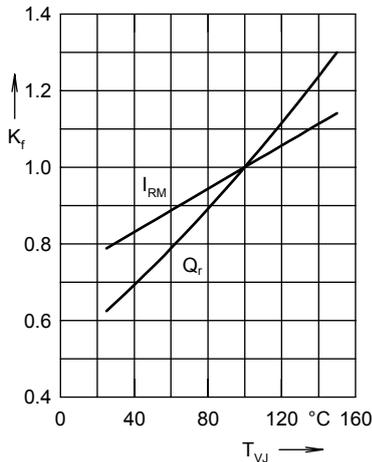


Fig. 4 Dynamic parameters Q_r , I_{RM} versus T_{VJ}

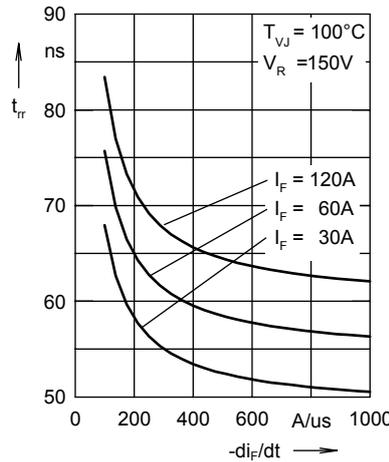


Fig. 5 Recovery time t_{tr} versus $-di_F/dt$

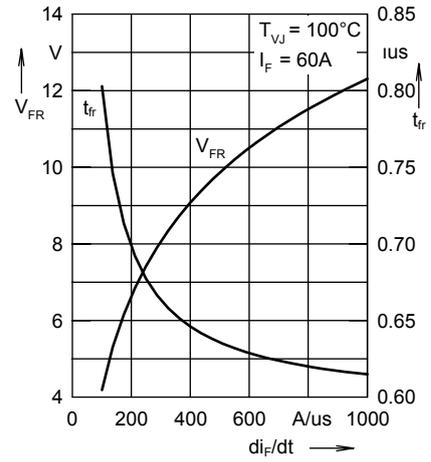


Fig. 6 Peak forward voltage V_{FR} and t_{tr} versus di_F/dt

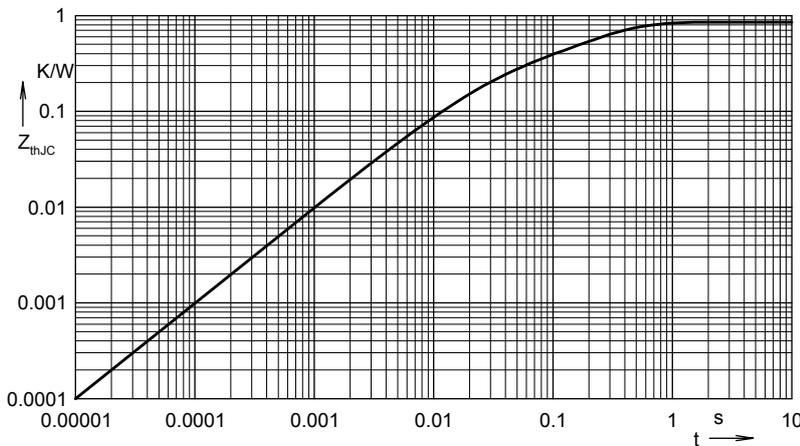


Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thjC} calculation:

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