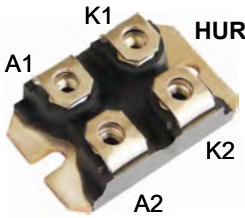
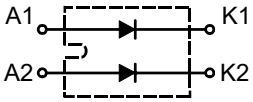
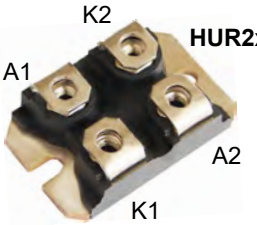
HUR2x140-40

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

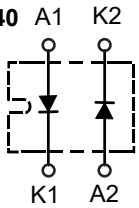


HUR2x140-40

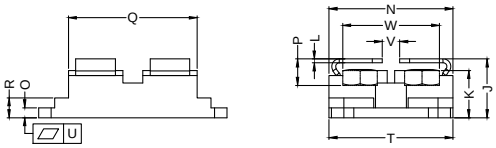


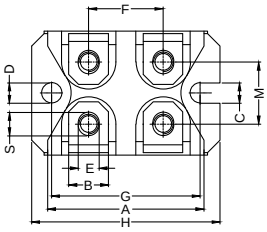


HUR2x141-40



Dimensions SOT-227





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
HUR2x140-40	400	400
HUR2x141-40	400	400

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM}	T_C=90°C; rectangular, d=0.5	140 140	A
I_{FSM}	T_{VJ}=45°C; t_p=10ms (50Hz), sine	1300	A
E_{AS}	T_{VJ}=25°C; non-repetitive; I_{AS}=4A; L=182uH	2	mJ
I_{AR}	V_A=1.5·V_R typ.; f=10kHz; repetitive	0.4	A
T_{VJ} T_{VJM} T_{stg}		-55...+175 175 -40...+150	°C
P_{tot}	T_C=25°C	390	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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HUR2x140-40

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°C; V_R=V_{RRM} T_{VJ}=150°C; V_R=V_{RRM}		0.10 3.00	mA
V_F	I_F=140A; T_{VJ}=175°C T_{VJ}=25°C	0.90 1.20	0.99 1.32	V
R_{thJC} R_{thCH}	with heatsink compound	0.09	0.45	K/W
t_{rr}	I_F=1A; -di/dt=400A/us; V_R=30V; T_{VJ}=25°C	35		ns
I_{RM}	V_R=100V; I_F=200A; -di$_F$/dt=100A/us; T_{VJ}=100°C	10.5	16.8	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
* 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

ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
HUR2x140-40	SOT-227	10pcs / Tube	HUR2x140-40
HUR2x141-40	SOT-227	10pcs / Tube	HUR2x141-40

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HUR2x140-40

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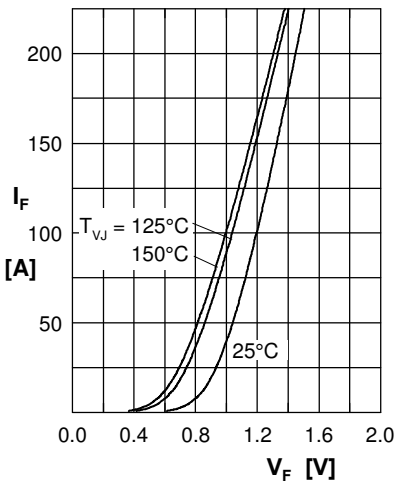

Fig. 1 Forward current I_F vs. V_F

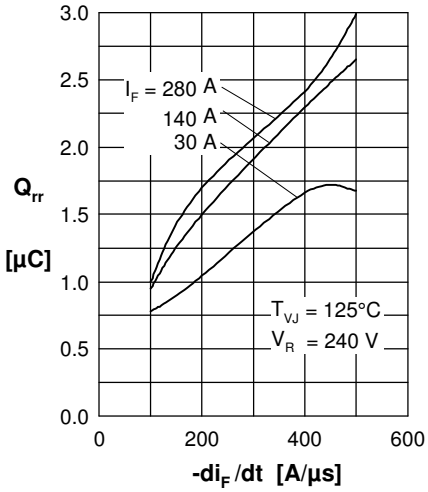

Fig. 2 Typ. reverse recovery charge Q_{rr} vs. $-di_F/dt$

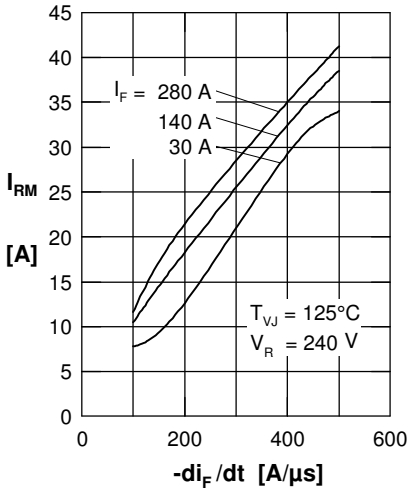

Fig. 3 Typ. reverse recovery current I_{RM} vs. $-di_F/dt$

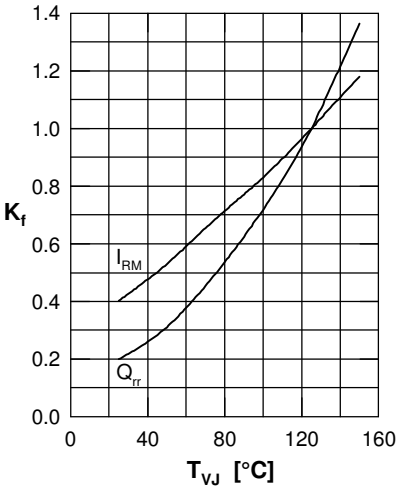

Fig. 4 Typ. dynamic parameters Q_{rr}, I_{RM} vs. T_{VJ}

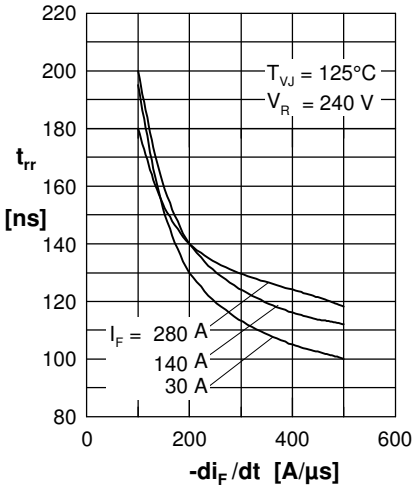

Fig. 5 Typ. reverse recovery time t_{rr} vs. $-di_F/dt$

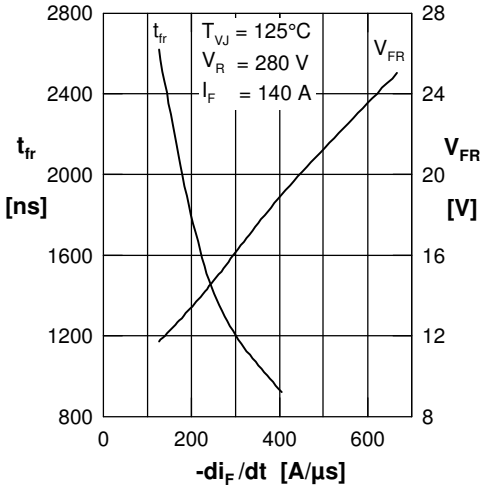

Fig. 6 Typ. forward recovery voltage V_{FR} & t_{fr} vs. di_F/dt

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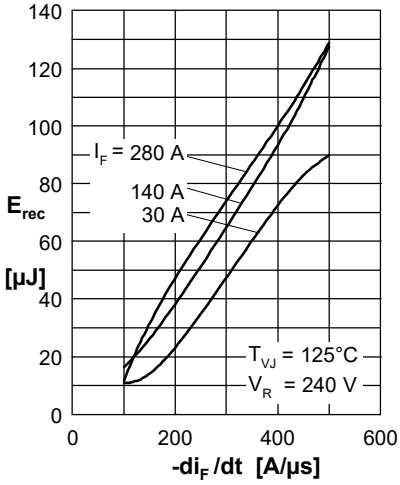

Fig. 7 Typ. recovery energy E_{rec} vs. $-di_F/dt$

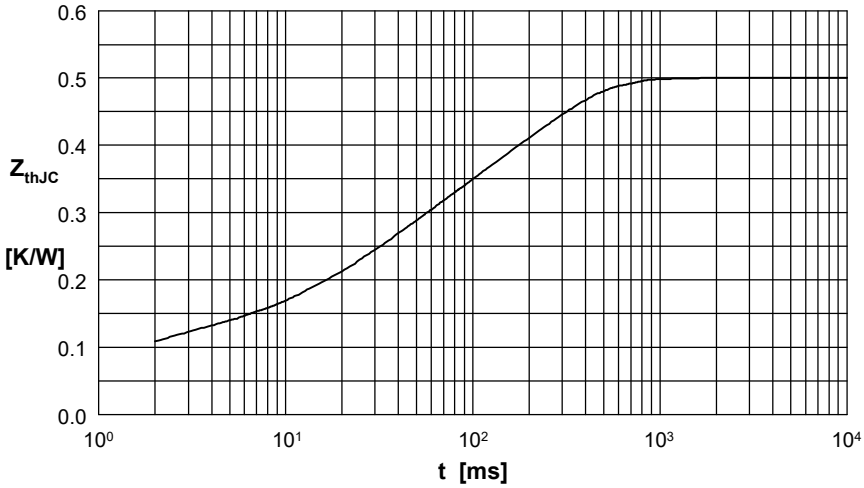

Fig. 8 Transient thermal impedance junction to case

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