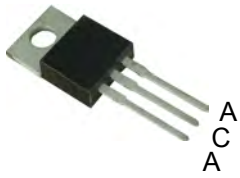
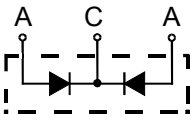
SUR2060CT

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diodes

C(TAB)

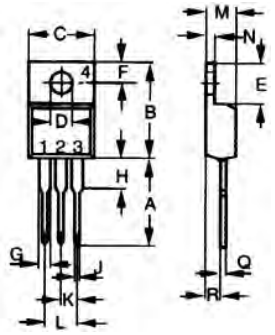




A=Anode, C=Cathode, TAB=Cathode

	V_{RSM} V	V_{RRM} V
SUR2060CT	600	600

Dimensions TO-220AB



Dim.	Inches Min.	Inches Max.	Milimeter Min.	Milimeter Max.
A	0.500	0.550	12.70	13.97
B	0.580	0.630	14.73	16.00
C	0.390	0.420	9.91	10.66
D	0.139	0.161	3.54	4.08
E	0.230	0.270	5.85	6.85
F	0.100	0.125	2.54	3.18
G	0.045	0.065	1.15	1.65
H	0.110	0.230	2.79	5.84
J	0.025	0.040	0.64	1.01
K	0.100	BSC	2.54	BSC
M	0.170	0.190	4.32	4.82
N	0.045	0.055	1.14	1.39
Q	0.014	0.022	0.35	0.56
R	0.090	0.110	2.29	2.79

Symbol	Test Conditions		Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FRM}	$T_{VJ}=T_{VJM}$ $T_C=100^oC$; rectangular, d=0.5 $t_P<10us$; rep. rating, pulse width limited by T_{VJM}		25 10 150	A
I_{FSM}	$T_{VJ}=45^oC$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	100 110	A
	$T_{VJ}=150^oC$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	85 95	
I^2t	$T_{VJ}=45^oC$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	50 50	A^2s
	$T_{VJ}=150^oC$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	36 37	
T_{VJ} T_{VJM} T_{stg}			-40...+150 150 -40...+150	^oC
P_{tot}	$T_C=25^oC$		62	W
M_d	Mounting torque		0.4...0.6	Nm
Weight			2	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}=25°C; V_R=0.8·V_{RRM} T_{VJ}=125°C; V_R=0.8·V_{RRM}		50 25 3	uA uA mA
V_F	I_F=16A; T_{VJ}=150°C T_{VJ}=25°C		1.5 1.7	V
V_{TO}	For power-loss calculations only		1.12	V
r_T	T_{VJ}=T_{VJM}		23.2	mΩ
R_{thJC} R_{thCK} R_{thJA}		0.5	2 60	K/W
t_{rr}	I_F=1A; -di/dt=50A/us; V_R=30V; T_{VJ}=25°C	35	50	ns
I_{RM}	V_R=350V; I_F=10A; -di$_F$/dt=100A/us; L≤0.05uH; T_{VJ}=100°C	4	4.4	A

FEATURES

* International standard package JEDEC TO-220AB
* 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 and melting
* Uninterruptible power supplies (UPS)
* Ultrasonic cleaners and welders

ADVANTAGES

* High reliability circuit operation
* Low voltage peaks for reduced protection circuits
* Low noise switching
* Low losses
* Operating at lower temperature or space saving by reduced cooling

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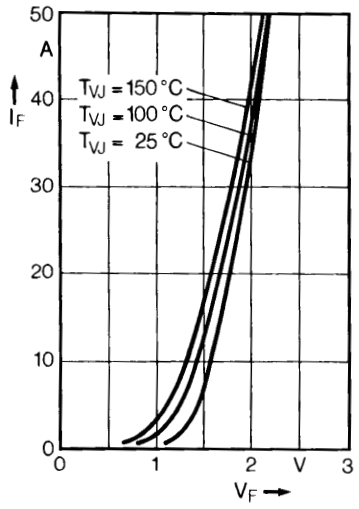


Fig. 1 Forward current versus voltage drop.

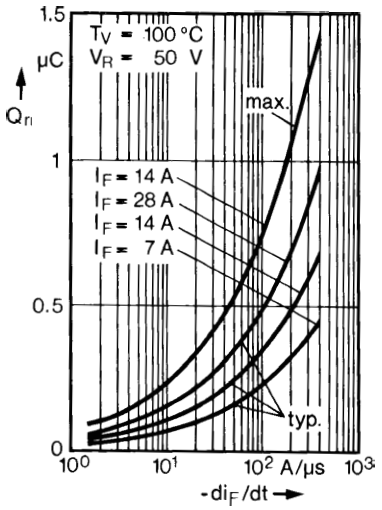


Fig. 2 Recovery charge versus $-di_F/dt$.

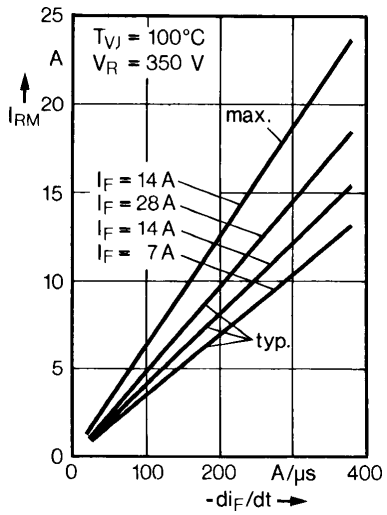


Fig. 3 Peak reverse current versus $-di_F/dt$.

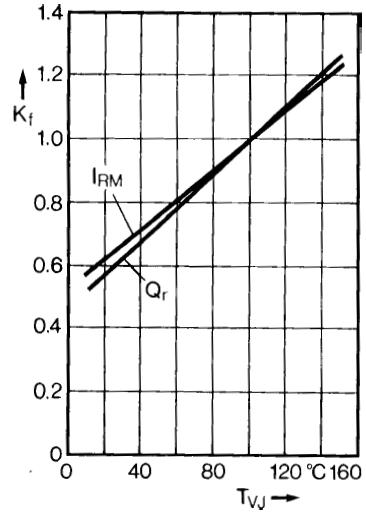


Fig. 4 Dynamic parameters versus junction temperature.

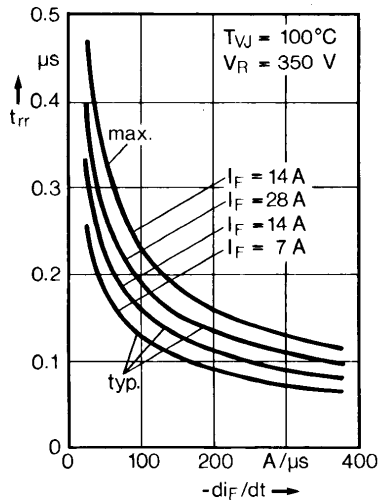


Fig. 5 Recovery time versus $-di_F/dt$.

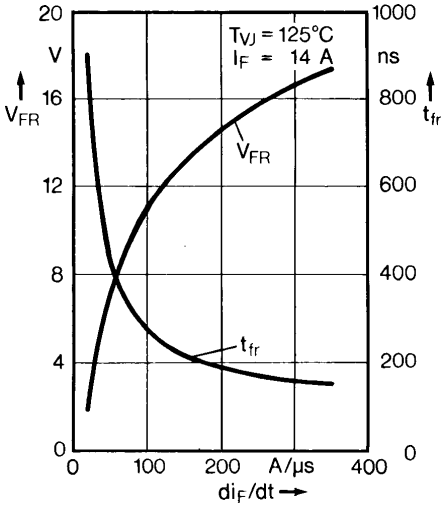


Fig. 6 Peak forward voltage versus di_F/dt.

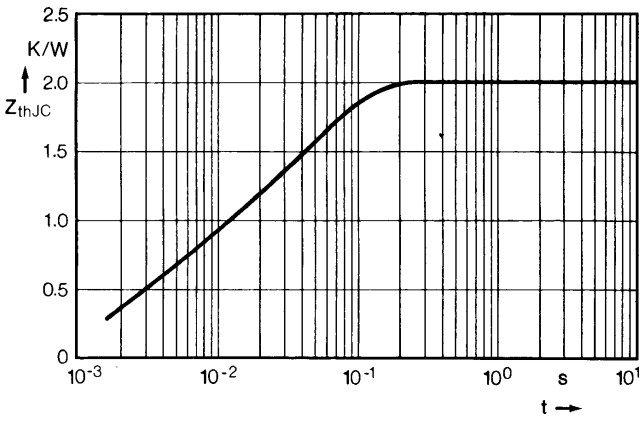


Fig. 7 Transient thermal impedance junction to case.

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