

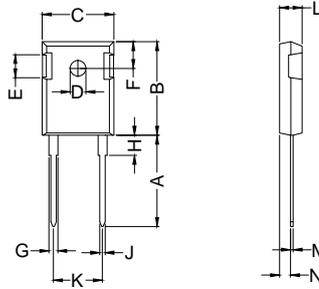
MUR3040, MUR3060

Ultra Fast Recovery Diodes



A=Anode, C=Cathode, TAB=Cathode

Dimensions TO-247AC



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.620	0.640
ØD	3.15	3.65	0.124	0.144
E	4.32	5.49	0.170	0.216
F	5.40	6.30	0.213	0.248
G	1.65	2.13	0.065	0.084
H	3.80	4.50	0.150	0.177
J	1.00	1.40	0.039	0.055
K	10.80	11.10	0.425	0.437
L	4.70	5.30	0.185	0.209
M	0.40	0.80	0.016	0.031
N	1.50	2.49	0.059	0.098

	V_{RSM} V	V_{RRM} V
MUR3040	400	400
MUR3060	600	600

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS}	$T_{VJ}=T_{VJM}$	70	A
I_{FAVM}	$T_C=85^{\circ}C$; rectangular, $d=0.5$	37	
I_{FRM}	$t_p < 10\mu s$; rep. rating, pulse width limited by T_{VJM}	375	
I_{FSM}	$T_{VJ}=45^{\circ}C$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	A
	$T_{VJ}=150^{\circ}C$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	
I^2t	$T_{VJ}=45^{\circ}C$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	A^2s
	$T_{VJ}=150^{\circ}C$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	$^{\circ}C$
P_{tot}	$T_C=25^{\circ}C$	125	W
M_d	Mounting torque	0.8...1.2	Nm
Weight	typical	6	g

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Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I _R	T _{VJ} =25°C; V _R =V _{RRM}		100	uA
	T _{VJ} =25°C; V _R =0.8·V _{RRM}		50	uA
	T _{VJ} =125°C; V _R =0.8·V _{RRM}		7	mA
V _F	I _F =37A; T _{VJ} =150°C T _{VJ} =25°C		1.4 1.6	V
V _{TO}	For power-loss calculations only		1.01	V
r _T	T _{VJ} =T _{VJM}		7.1	mΩ
R _{thJC} R _{thCK} R _{thJA}		0.25	1 35	K/W
t _{tr}	I _F =1A; -di/dt=100A/us; V _R =30V; T _{VJ} =25°C	35	50	ns
I _{RM}	V _R =350V; I _F =30A; -di _F /dt=240A/us; L<0.05uH; T _{VJ} =100°C	10	11	A

FEATURES

- * International standard package JEDEC TO-247AC
- * Planar passivated chips
- * Very short recovery time
- * Extremely low switching losses
- * Low I_{RM}-values
- * Soft recovery behaviour
- * RoHS compliance

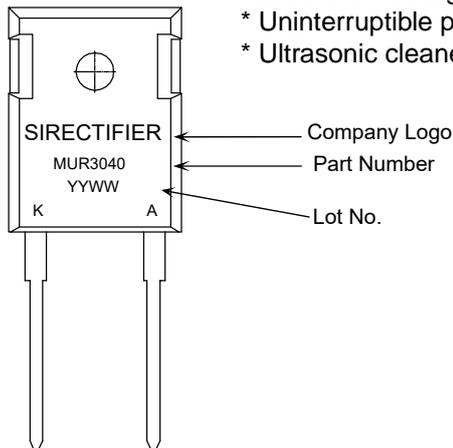
APPLICATIONS

- * 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 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

MARKING



ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
MUR3040	TO-247AC	30pcs / Tube	MUR3040
MUR3060	TO-247AC	30pcs / Tube	MUR3060

Sirectifier®

MUR3040, MUR3060

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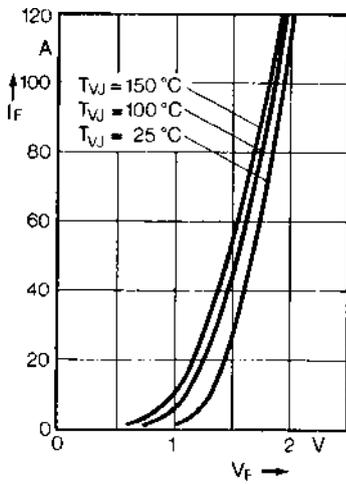


Fig. 1 Forward current versus voltage drop.

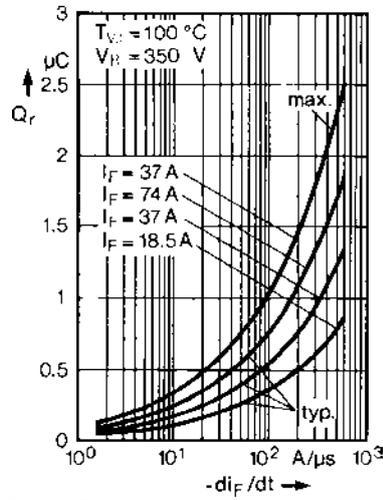


Fig. 2 Recovery charge versus $-di_F/dt$.

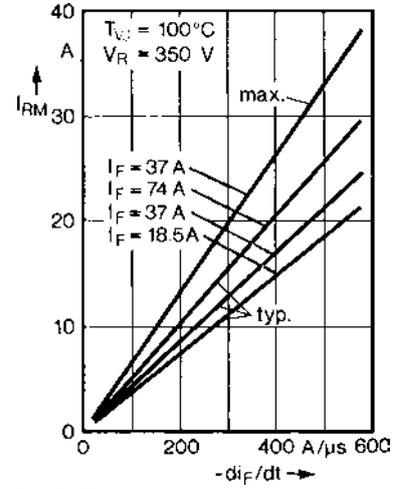


Fig. 3 Peak reverse current versus $-di_F/dt$.

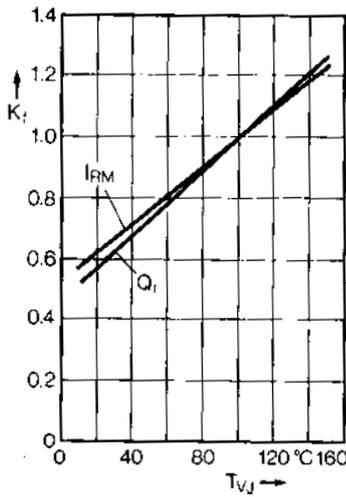


Fig. 4 Dynamic parameters versus junction temperature.

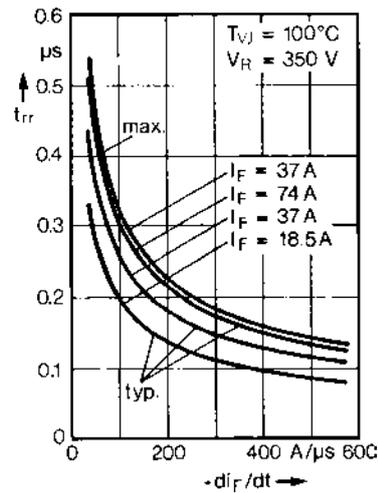


Fig. 5 Recovery time versus $-di_F/dt$.

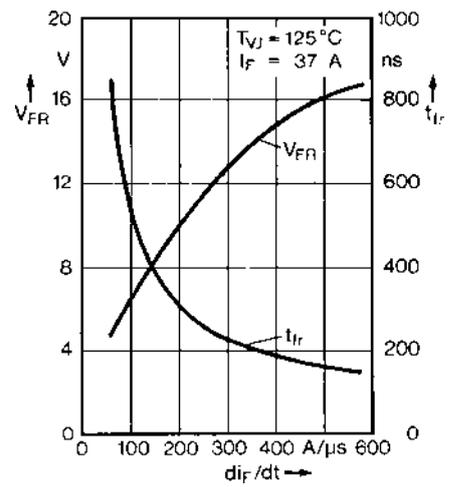


Fig. 6 Peak forward voltage versus di_F/dt .

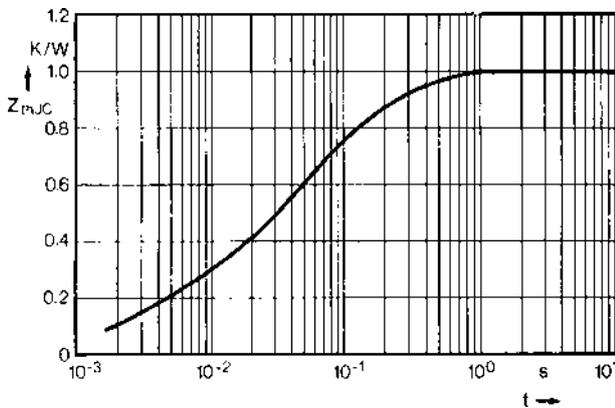


Fig. 7 Transient thermal impedance junction to case.