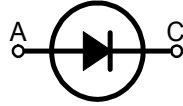
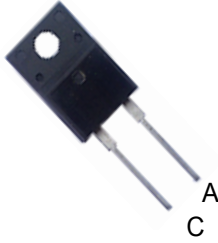


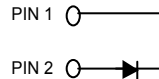
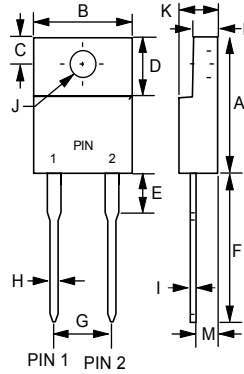
# MURF1020-MURF1060

## Ultra Fast Recovery Diodes



A=Anode, C=Cathode

Dimensions ITO-220AC



DIM	DIMENSIONS				
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.583	.606	14.80	15.40	
B	---	.406	---	10.30	
C	.100	.112	2.55	2.85	
D	.248	.272	6.30	6.90	
E	---	.161	---	4.10	
F	.512	.543	13.00	13.80	
G	.200		5.10		
H	---	.035	---	0.90	
I	---	.032	---	0.80	
J	.118	.134	3.00	3.40	∅
K	---	.189	---	4.80	
L	---	.123	---	3.10	
M	.098	.114	2.50	2.90	

	$V_{RSM}$	$V_{RRM}$
	V	V
<b>MURF1020</b>	200	200
<b>MURF1040</b>	400	400
<b>MURF1050</b>	500	500
<b>MURF1060</b>	600	600

Symbol	Test Conditions	Maximum Ratings				Unit	
		MURF1020	MURF1040	MURF1050	MURF1060		
$I_{FRMS}$	$T_{VJ}=T_{VJM}$	21	21	21	21	A	
$I_{FAVM}$	$T_C=115^{\circ}C$ ; rectangular, $d=0.5$	10	10	10	10		
$I_{FRM}$	$t_p < 10\mu s$ ; rep. rating, pulse width limited by $T_{VJM}$	160	160	160	160		
$I_{FSM}$	$T_{VJ}=45^{\circ}C$	150	140	130	120	A	
	$t=10ms$ (50Hz), sine	160	150	140	130		
$I^2t$	$T_{VJ}=150^{\circ}C$	130	110	110	100		A <sup>2</sup> s
	$t=10ms$ (50Hz), sine	150	130	130	130		
$I^2t$	$T_{VJ}=45^{\circ}C$	60	60	60	60	A <sup>2</sup> s	
	$t=10ms$ (50Hz), sine	75	75	75	75		
$I^2t$	$T_{VJ}=150^{\circ}C$	42	42	42	42		A <sup>2</sup> s
	$t=10ms$ (50Hz), sine	47	47	47	47		
$T_{VJ}$		-40...+150				°C	
$T_{VJM}$		150					
$T_{stg}$		-40...+150					
$P_{tot}$	$T_C=25^{\circ}C$	60				W	
$M_d$	Mounting torque	0.4...0.6				Nm	
Weight		1.6				g	

# MURF1020-MURF1060

## Ultra Fast Recovery Diodes

Symbol	Test Conditions	Characteristic Values				Unit
		MURF1020	MURF1040	MURF1050	MURF1060	
<b>I<sub>R</sub></b>	$T_{VJ}=25^{\circ}\text{C}; V_R=V_{RRM}$	10	10	10	10	uA
	$T_{VJ}=25^{\circ}\text{C}; V_R=0.8 \cdot V_{RRM}$	5	5	5	5	uA
	$T_{VJ}=125^{\circ}\text{C}; V_R=0.8 \cdot V_{RRM}$	1.0	1.0	1.0	1.0	mA
<b>V<sub>F</sub></b>	$I_F=10\text{A}; T_{VJ}=150^{\circ}\text{C}$	1.0	1.1	1.1	1.3	V
	$T_{VJ}=25^{\circ}\text{C}$	1.1	1.4	1.6	1.6	
<b>V<sub>To</sub></b>	For power-loss calculations only	0.88	0.10	1.20	1.35	V
<b>r<sub>T</sub></b>	$T_{VJ}=T_{VJM}$	26.6	28.5	28.7	29.9	mΩ
<b>R<sub>thJC</sub></b>		2.3	2.3	2.3	2.3	K/W
<b>R<sub>thCK</sub></b>		0.5	0.5	0.5	0.5	
<b>R<sub>thJA</sub></b>		2.8	2.8	2.8	2.8	
<b>t<sub>rr</sub></b>	$I_F=1\text{A}; -di/dt=50\text{A/us}; V_R=30\text{V}; T_{VJ}=25^{\circ}\text{C}$	35	35	35	50	ns
<b>I<sub>RM</sub></b>	$V_R=350\text{V}; I_F=8\text{A}; -di_F/dt=64\text{A/us}; L \leq 0.05\mu\text{H}; T_{VJ}=100^{\circ}\text{C}$	3.0	2.7	2.6	2.5	A
<b>V<sub>isol</sub></b>		2500				VAC

### FEATURES

- \* International standard package JEDEC ITO-220AC
- \* Planar passivated chips
- \* Very short recovery time
- \* Extremely low switching losses
- \* Low I<sub>RM</sub>-values
- \* Soft recovery behaviour

### 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