

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Ultrafast and soft recovery time for high efficiency
- Low VF ,Low power loss
- Polyimide passivation
- High surge capability
- Meets JESD 201 class 2 whisker test
- High temperature soldering guaranteed:260 °C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



### MECHANICAL DATA

- Case: JEDEC TO-220AC 、 ITO-220AC molded plastic body
- Terminals: Lead solderable per MIL-STD-750,method 2026
- Polarity: As marked
- Mounting Position: Any
- Weight : 1.9 Grams(Approximately)

### TYPICAL APPLICATIONS

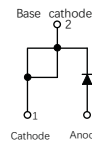
- For use in boost stage in SMPS
- High frequency inverters for solar inverters
- DC /DC converters
- High frequency output rectification of battery chargers
- Free wheeling diodes in motor drivers

### MAXIMUM RATINGS

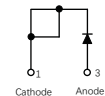
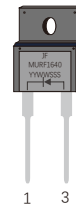
(Ratings at 25 °C ambient temperature unless otherwise specified )

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	V
Maximum average forward rectified current	$I_{F(AV)}$	16	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150	A
Operating junction temperature range	$T_J$	-55 to +175	°C
Storage temperature range	$T_{stg}$	-55 to +175	°C

TO-220AC



ITO-220AC



CASE:TO-220AC、 ITO-220AC

MARKING:

JF =Logo

Y =Year

W =Work Week

S =Chip Size

MUR1640 =Device code

## ELECTRICAL CHARACTERISTICS (TA=25°C Unless otherwise noted )

Parameter	Test Conditions		Symbol	Min.	Typ.	Max .	Unit
Breakdown voltage Blocking voltage	IR=200μA		$V_{BR}$ $V_R$	400	-	-	V
Instaneous forward voltage	T <sub>J</sub> =25°C	IF=1.0A	V <sub>F</sub> 1)	-	0.81	-	V
		IF=5.0A		-	0.99	-	
		IF=16.0A		-	1.21	1.35	
	T <sub>J</sub> =125°C	IF=1.0A		-	0.63	-	
		IF=5.0A		-	0.85	-	
		IF=16.0A		-	1.12	-	
Reverse current	T <sub>J</sub> =25°C	V <sub>R</sub> =400V	I <sub>R</sub> 2)	-	-	2.0	μA
	T <sub>J</sub> =100°C			-	-	15	μA
	T <sub>J</sub> =125°C			-	-	50	
Junction capacitance	4V,1MHz		C <sub>J</sub>	-	50	-	pF

Notes: 1.Pulse test: 300μs pulse width,1% duty cycle

2.Pulse test: pulse width ≤40ms

## DYNAMIC RECOVERY CHARACTERISTICS (T<sub>J</sub>=25°C)

Parameter	Test Conditions	Symbol	Min.	Typ.	Max .	Unit
Reverse recovery time	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A	trr	-	30	35	ns

## THERMAL CHARACTERISTICS

Parameter	Symbol	TO-220AC	ITO-220AC	Unit
Typical thermal resistance <sup>3)</sup>	$R_{\theta jc}$	1.5	3.5	$^{\circ}\text{C}/\text{W}$

3. Thermal resistance from junction to case

## AVAILABLE PACK INFORMATION

Product code	Pack	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton Size L×W×H(mm)	Quantity(box/carton)
MUR1640 -TO-220AC MURF1640 -ITO-220AC	P/T	558×148×38	1000	565×225×170	5

FIG.1-FORWARD CURRENT DERATING CURVE

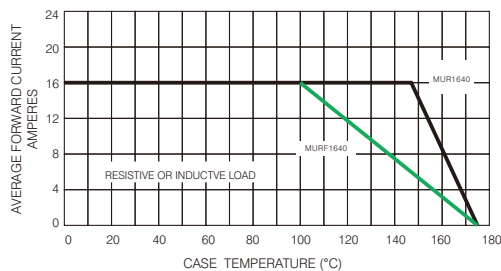


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

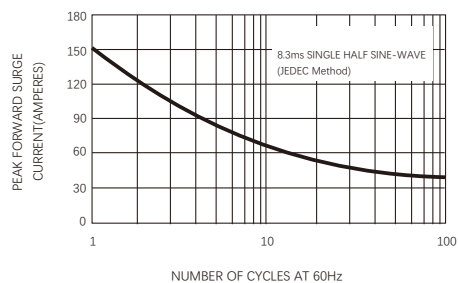


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

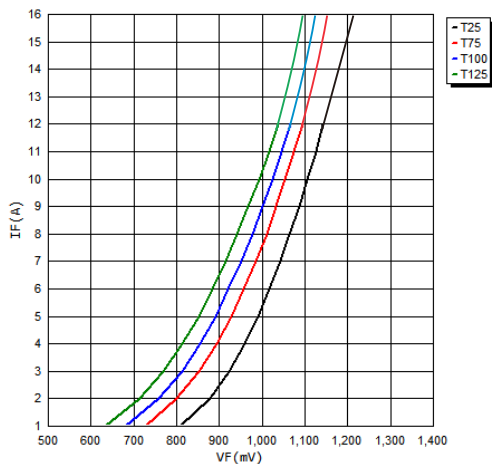


FIG.4-TYPICAL REVERSE CHARACTERISTICS

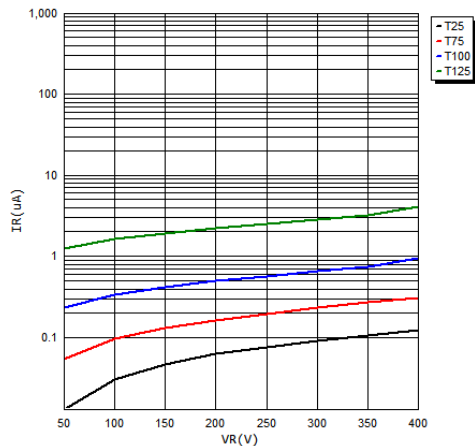
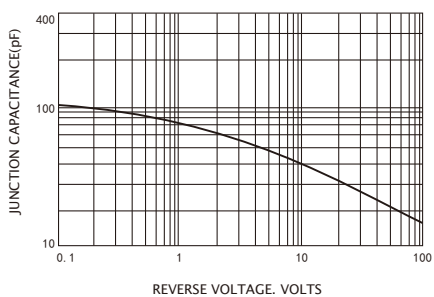
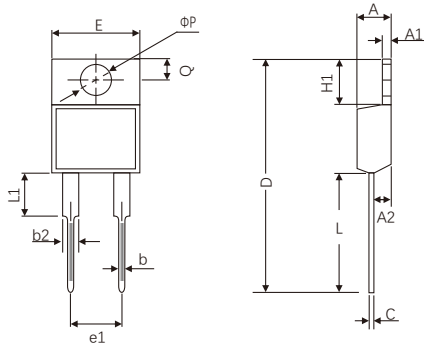


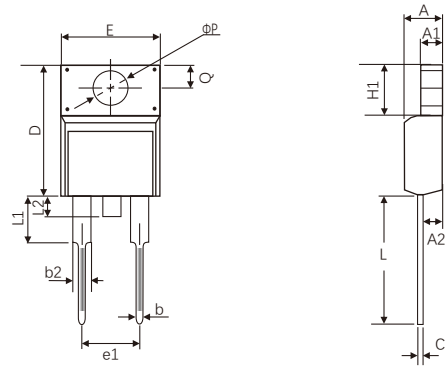
Fig.5-Typical Junction Capacitance



## TO-220AC



## ITO-220AC



Sym bol	millim eter			inchs		
	Min.	Typ.	M AX	Min.	Typ.	M AX
A	4.44	4.70		0.175	0.185	
A1	1.14	1.39		0.045	0.055	
A2	2.50	2.90		0.098	0.114	
b	0.68	0.94		0.027	0.037	
b2	1.20	1.34		0.047	0.053	
C	0.35	0.58		0.014	0.023	
D	28.10	29.50		1.106	1.161	
E	9.85	10.42		0.388	0.410	
e1	4.88	5.28		0.192	0.208	
H1	6.20	7.20		0.244	0.283	
L	13.00	14.22		0.512	0.560	
L1	3.55	4.05		0.140	0.159	
L2	-	-		-	-	
ΦP	3.74	4.10		0.147	0.161	
Q	2.60	2.88		0.102	0.113	

Sym bol	millim eter			inchs		
	Min.	Typ.	M AX	Min.	Typ.	M AX
A	4.49	4.89		0.177	0.192	
A1	2.28	2.88		0.090	0.133	
A2	2.50	2.90		0.098	0.114	
b	0.67	0.93		0.026	0.037	
b2	1.10	1.43		0.043	0.056	
C	0.37	0.63		0.015	0.025	
D	15.40	15.60		0.606	0.646	
E	9.91	10.41		0.390	0.410	
e1	4.88	5.28		0.192	0.208	
H1	6.45	6.85		0.254	0.270	
L	12.50	13.50		0.492	0.531	
L1	2.45	3.45		0.096	0.136	
L2	0.00	1.50		0.000	0.059	
ΦP	3.15	3.45		0.124	0.136	
Q	3.05	3.45		0.120	0.136	

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