



## SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage - 40 to 200 V

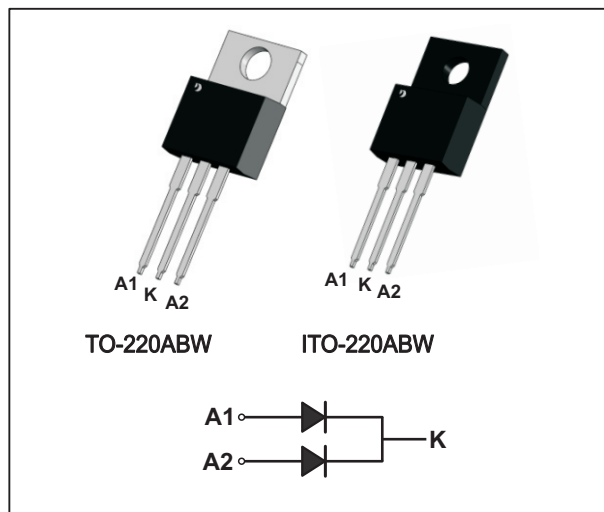
Forward Current - 20 A

### FEATURES

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Mounting position: any

### Mechanical data

- Case: TO-220ABW
- Approx. Weight: 1.9g ( 0.067oz)
- Case: ITO-220ABW
- Approx. Weight: 2.1g ( 0.07oz)
- Terminals: Lead solderable per MIL-STD-202, Method 208



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

CHARACTERISTICS	TO-220	MBR2040CT	MBR2045CT	MBR2060CT	MBR20100CT	MBR20150CT	MBR20200CT	Units
	ITO-220	MBR2040FT	MBR2045FT	MBR2060FT	MBR20100FT	MBR20150FT	MBR20200FT	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	40	45	60	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	28	31.5	42	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	40	45	60	100	150	200	V
Maximum Average Forward Rectified Current per diode per device	$I_{F(AV)}$	10 20						A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) per diode	$I_{FSM}$	150						A
Max Instantaneous Forward Voltage at 10 A(per diode)	$V_F$	0.70		0.75	0.85	0.90	0.92	V
Maximum DC Reverse Current at Rated DC Reverse Voltage $T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$	$I_R$	0.1 20			0.05 20			mA
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	600		400				pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	45						°C/W
Operating Junction Temperature Range	$T_j$	-55 ~ +150				-55 ~ +175		°C
Storage Temperature Range	$T_{stg}$	-55 ~ +150				-55 ~ +175		°C

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 10cmX10cmX1mm copper pad areas.



Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

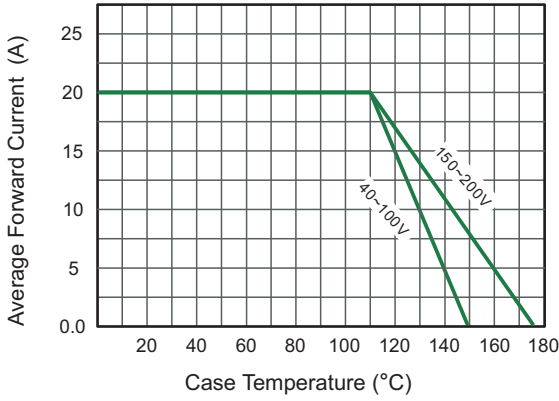


Fig.2 Typical Reverse Characteristics

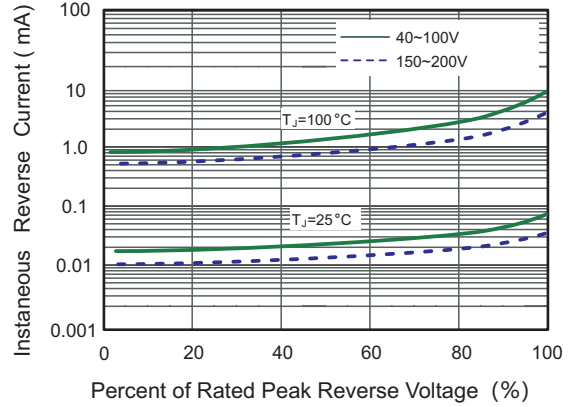


Fig.3 Typical Forward Characteristic(per leg)

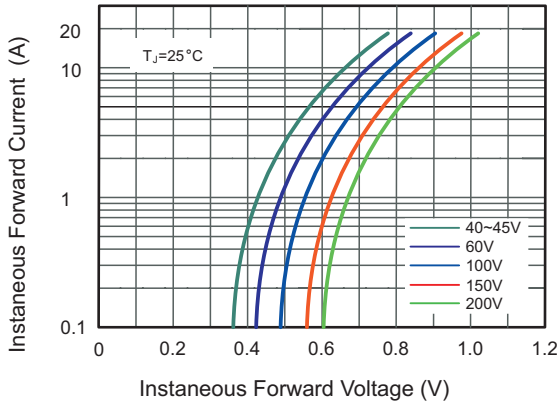


Fig.4 Typical Junction Capacitance

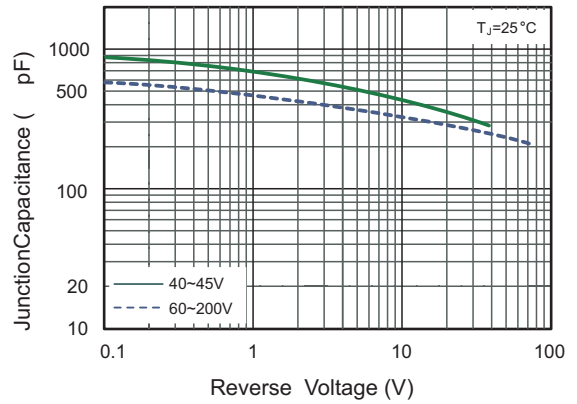


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

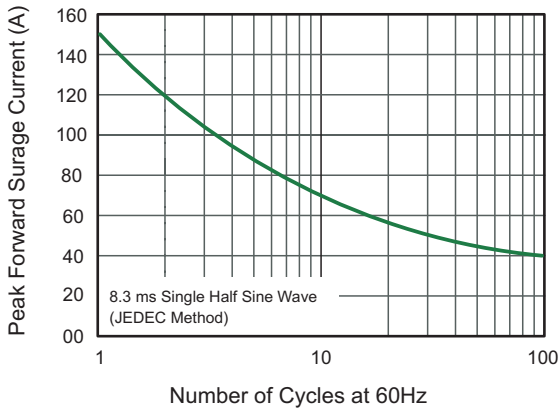
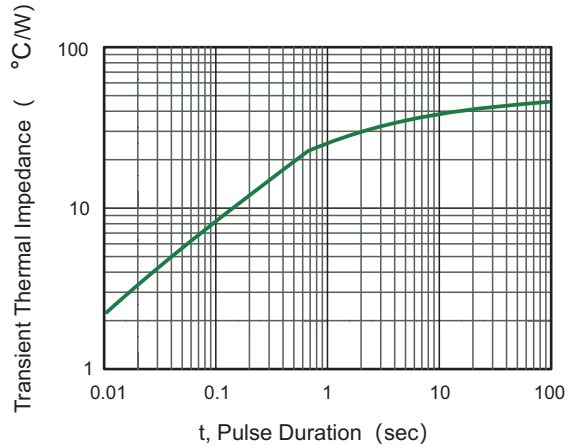


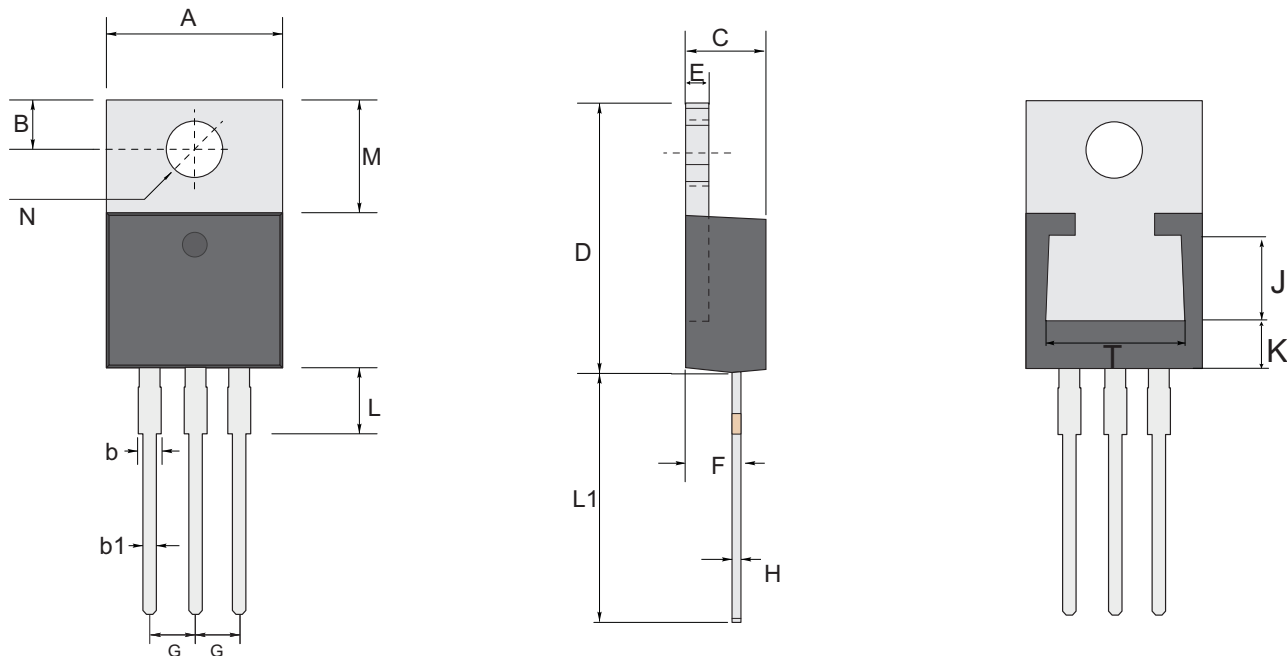
Fig.6- Typical Transient Thermal Impedance





PACKAGE OUTLINE  
Plastic surface mounted package; 3 leads

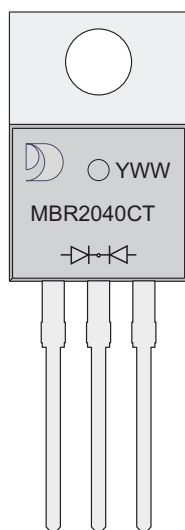
TO-220ABW



TO-220ABW mechanical data

UNIT		A	B	b	b1	C	D	E	F	G	H	L	L1	M	N	J	T	K
mm	max	10.45	2.94	1.77	0.94	4.76	16.0	1.40	2.80	2.54 TYPICAL	0.64	4.2	14.79	6.6 TYPICAL	3.8 TYPICAL	4.65 ref.	7.70 ref.	3.22 ref.
	typ	9.94	2.74	1.27	0.81	4.53	15.09	1.27	2.69		0.38	3.89	13.18					
	min	9.85	2.54	1.14	0.62	4.42	14.6	1.14	2.20		0.35	2.8	13.08					
mil	max	411	116	70	40	187	630	55	110	100 TYPICAL	25	165	582	259 TYPICAL	150 TYPICAL	1.83 ref.	303 ref.	126 ref.
	typ	391	107	50	31	178	594	50	105		15	153	519					
	min	388	100	45	24	174	575	45	87		14	110	515					

MARKING DIAGRAM



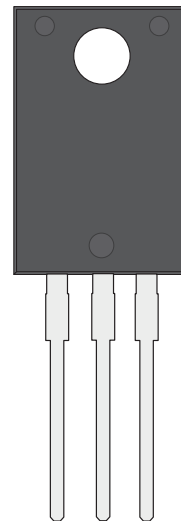
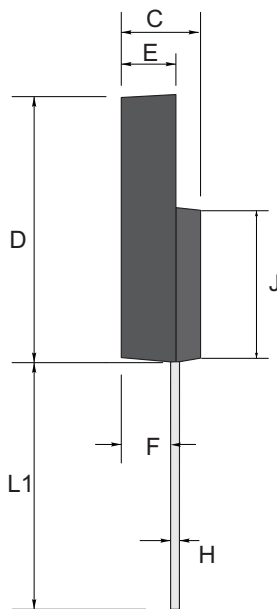
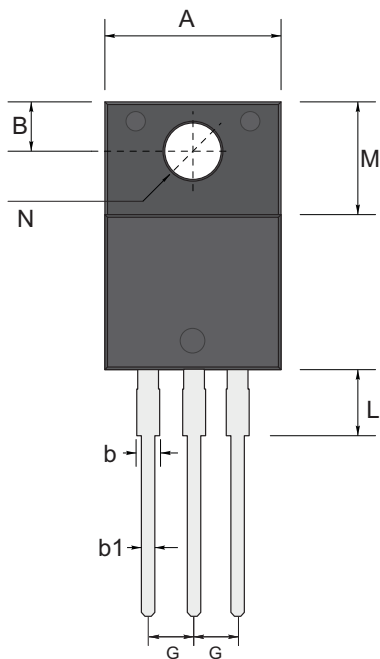
YWW: Date Code  
Y:Years(0~9)  
WW:Week  
MBR2040CT: Product name  
(NOTE: The weekly code is based on the actual number of weeks in the calendar year.)



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

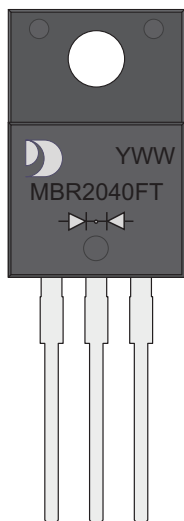
ITO-220ABW



ITO-220ABW mechanical data

UNIT		A	B	b	b1	C	D	E	F	G	H	L	L1	M	N
mm	max	10.5	2.85	1.4	0.8	4.7	16.0	2.9	2.8	2.54 TYPICAL	0.70	2.9	14.3	7.0	3.4 TYPICAL
	typ	10.0	2.70	1.2	0.6	4.5	15.0	2.7	2.7		0.55	2.5	13.5	6.8	
	min	9.85	2.54	1.1	0.5	4.4	14.7	2.5	2.5		0.41	2.3	13.0	6.3	
mil	max	413	112	55	31	185	630	114	110	100 TYPICAL	27	114	563	276	133 TYPICAL
	typ	394	106	47	24	177	590	106	106		22	98	531	267	
	min	388	100	43	20	173	580	98	98		16	91	512	248	

MARKING DIAGRAM



YWW: Date Code  
Y:Years(0~9)  
WW:Week  
MBR2040FT: Product name  
(NOTE: The weekly code is based on the actual number of weeks in the calendar year.)



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