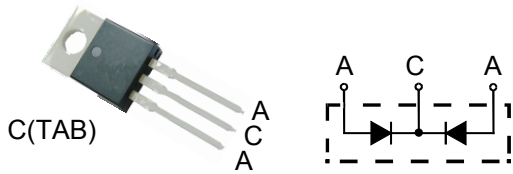


# 常州国润电子有限公司

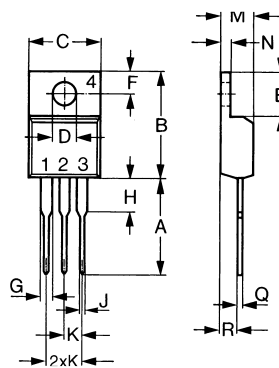
## MBR1045CT

Wide Temperature Range and High  $T_{jm}$  Schottky Barrier Rectifiers



A=Anode, C=Cathode, TAB=Cathode

Dimensions TO-220AB



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.38	0.56	0.015	0.022
R	2.29	2.79	0.090	0.110

	$V_{RSM}$	$V_{RRM}$
	V	V
<b>MBR1045CT</b>	45	45

Symbol	Test Conditions	Maximum Ratings	Unit
$I_{FRMS}$		17.5	
$I_{FAV}$	$T_C=165^\circ\text{C}$ ; rectangular, $d=0.5$	5	A
$I_{FAV}$	$T_C=165^\circ\text{C}$ ; rectangular, $d=0.5$ ; per device	10	
$I_{FSM}$	$T_{VJ}=45^\circ\text{C}$ ; $t_p=10\text{ms}$ (50Hz), sine	130	A
$E_{AS}$	$I_{AS}=8\text{A}$ ; $L=180\mu\text{H}$ ; $T_{VJ}=25^\circ\text{C}$ ; non-repetitive	3.5	mJ
$I_{AR}$	$V_A=1.5 \cdot V_{RRM}$ typ.; $f=10\text{kHz}$ ; repetitive	0.6	A
$(dv/dt)_{cr}$		5000	V/us
$T_{VJ}$		-55...+175	$^\circ\text{C}$
$T_{VJM}$		175	
$T_{stg}$		-55...+150	
$P_{tot}$	$T_C=25^\circ\text{C}$	50	W
$M_d$	mounting torque	0.4...0.6	Nm
<b>Weight</b>	typical	2	g

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
$I_R$	$T_{VJ}=25^\circ\text{C}$ ; $V_R=V_{RRM}$ $T_{VJ}=125^\circ\text{C}$ ; $V_R=V_{RRM}$		0.1 100	mA
$V_F$	$I_F=5\text{A}$ ; $T_{VJ}=125^\circ\text{C}$ $I_F=5\text{A}$ ; $T_{VJ}=25^\circ\text{C}$ $I_F=10\text{A}$ ; $T_{VJ}=125^\circ\text{C}$		0.55 0.63 0.72	V
$R_{thJC}$ $R_{thCH}$		0.5	1.7	K/W

### FEATURES

- \* International standard package
- \* Very low  $V_F$
- \* Extremely low switching losses
- \* Low  $I_{RM}$ -values

### APPLICATIONS

- \* Rectifiers in switch mode power supplies (SMPS)
- \* Free wheeling diode in low voltage converters

### ADVANTAGES

- \* High reliability circuit operation
- \* Low voltage peaks for reduced protection circuits
- \* Low noise switching
- \* Low losses

