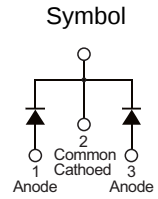


PRODUCT CHARACTERISTICS

VR(@IC=0.5mA)	45V
VF(Typ@IF=20A)	0.58V
IR(@VR=45V)	50uA
ID	40A

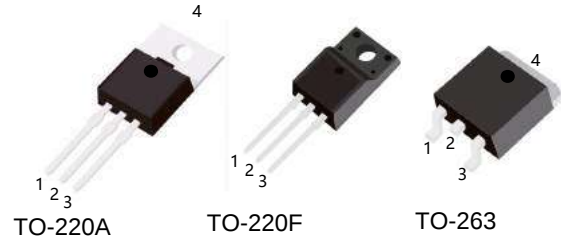


MECHANICAL CHARACTERISTICS

- * Case: epoxy,molded
- * Finish:all external surfaces corrosion resistant and terminal
- * Leads are readily solderable
- * Leads temperature for soldering purposes:
260°C Max for 10 seconds

FEATURES

- * Guard ring for stress protection
- * Low forward voltage
- * Low power loss/high efficiency
- * High surge capacity
- * Low stored charge majority carrier conduction
- * Pb free package are available



ORDER INFORMATION

Order codes		Package	Packing
Halogen-free	Halogen		
N/A	MBR4045A	TO-220	50pieces/Tube
N/A	MBR4045F	TO-220F	50pieces/Tube
N/A	MBR4045E	TO-263	800pieces/Reel

MAXIMUM RATINGS (Each diode leg)

Parameter	Symbol	Value	Unit
Peak repetitive reverse voltage	V_{RRM}	45	V
Average rectified output current	Total	40	A
	Per leg	20	A
Non-repetitive peak forward surge current 8.3ms single half sine-wave superimposed on reate load	I_{FSM}	400	A
Operating and storage temperature range	T_J, T_{STG}	-55 to + 175	°C

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Peak repetitive reverse voltage	B_V	$I_C=0.5mA, T_J=25^{\circ}C$	45	-	-	V
Forward voltage drop	V_F	$I_F=20A, T_J=25^{\circ}C$	-	0.58	0.62	V
Leakage current	I_R	$V_R=45V, T_J=25^{\circ}C$	-	-	0.05	mA
		$V_R=45V, T_J=125^{\circ}C$	-	-	6	

■ TYPICAL CHARACTERISTICS

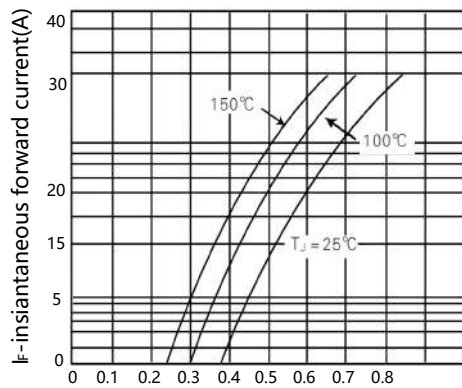


Figure 1 typical forward voltage per diode

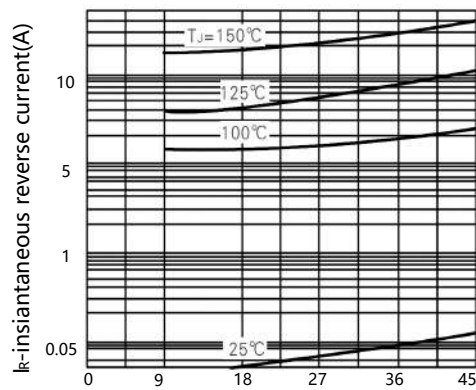


Figure 2 typical reverse current per diode

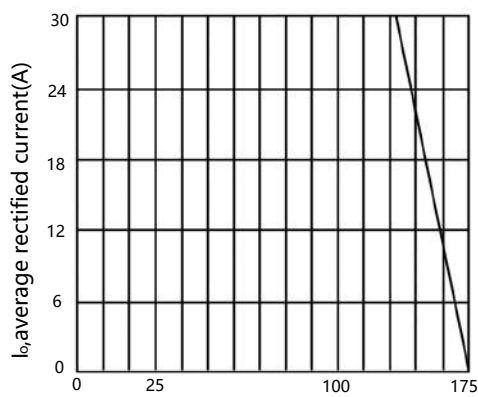


Figure 3 forward current derating curve

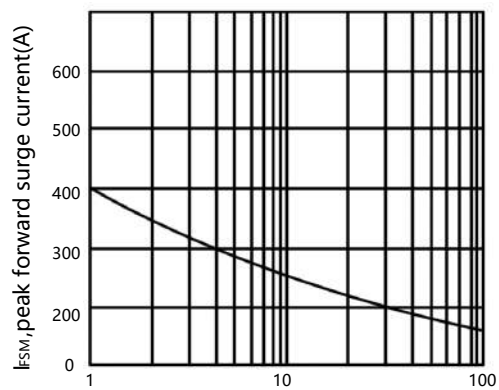


Figure 4 max non-repetitive surge current

Technical drawing of a mechanical part, showing three views: front, top, and side. The drawing includes dimensions for various features and tolerances.

Front View Dimensions:

- Overall width: 10.06 ± 0.15
- Overall height: 15.87 ± 0.15
- Top flange width: 7.00 ± 0.15
- Top flange thickness: 3.30
- Central circular feature diameter: $3 \times \phi 1.50 \pm 0.15$
- Central circular feature depth: 1.80
- Central circular feature diameter: 8.0
- Central circular feature radius: $R0.5$
- Bottom flange width: 8.0
- Bottom flange thickness: 4.90
- Bottom flange radius: $R0.5$
- Bottom flange depth: 6.10 ± 0.1
- Bottom flange diameter: 6.47
- Bottom flange thickness: 1.80 ± 0.1
- Bottom flange diameter: 12.93 ± 0.3
- Bottom flange thickness: 0.80
- Bottom flange diameter: 2.54
- Bottom flange thickness: 2.54
- Bottom flange diameter: 3.18
- Bottom flange thickness: 9.75
- Bottom flange diameter: 1.38 ± 0.1

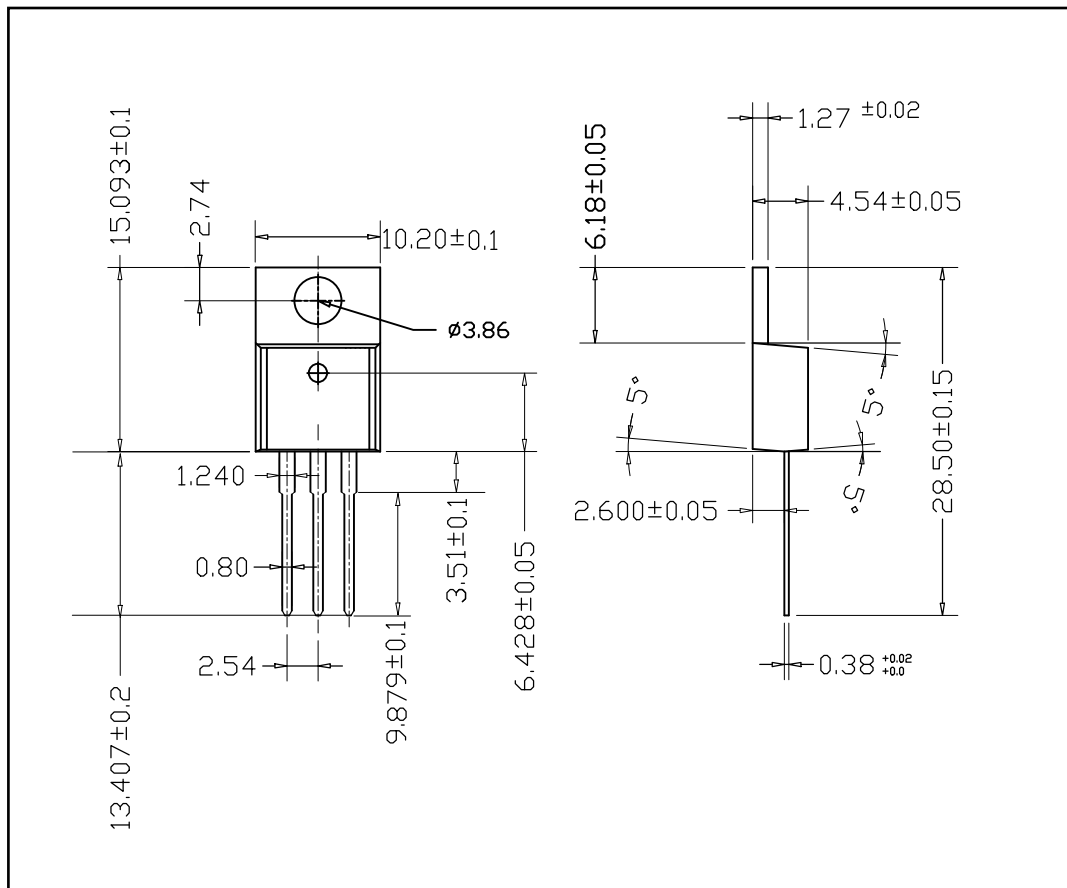
Top View Dimensions:

- Overall width: 10.06 ± 0.15
- Overall height: 15.87 ± 0.15
- Top flange width: 7.00 ± 0.15
- Top flange thickness: 3.30
- Central circular feature diameter: $3 \times \phi 1.50 \pm 0.15$
- Central circular feature depth: 1.80
- Central circular feature diameter: 8.0
- Central circular feature radius: $R0.5$
- Bottom flange width: 8.0
- Bottom flange thickness: 4.90
- Bottom flange radius: $R0.5$
- Bottom flange depth: 6.10 ± 0.1
- Bottom flange diameter: 6.47
- Bottom flange thickness: 1.80 ± 0.1
- Bottom flange diameter: 12.93 ± 0.3
- Bottom flange thickness: 0.80
- Bottom flange diameter: 2.54
- Bottom flange thickness: 2.54
- Bottom flange diameter: 3.18
- Bottom flange thickness: 9.75
- Bottom flange diameter: 1.38 ± 0.1

Side View Dimensions:

- Overall width: 4.70 ± 0.1
- Overall height: 6.68 ± 0.1
- Top flange width: 2.54 ± 0.15
- Top flange thickness: 5°
- Central circular feature diameter: $3 \times \phi 1.50 \pm 0.15$
- Central circular feature depth: 1.80
- Central circular feature diameter: 8.0
- Central circular feature radius: $R0.5$
- Bottom flange width: 8.0
- Bottom flange thickness: 4.90
- Bottom flange radius: $R0.5$
- Bottom flange depth: 6.10 ± 0.1
- Bottom flange diameter: 6.47
- Bottom flange thickness: 1.80 ± 0.1
- Bottom flange diameter: 12.93 ± 0.3
- Bottom flange thickness: 0.80
- Bottom flange diameter: 2.54
- Bottom flange thickness: 2.54
- Bottom flange diameter: 3.18
- Bottom flange thickness: 9.75
- Bottom flange diameter: 1.38 ± 0.1

■ TO-220 PACKAGE OUTLINE DIMENSIONS



■ TO-263 PACKAGE OUTLINE DIMENSIONS

