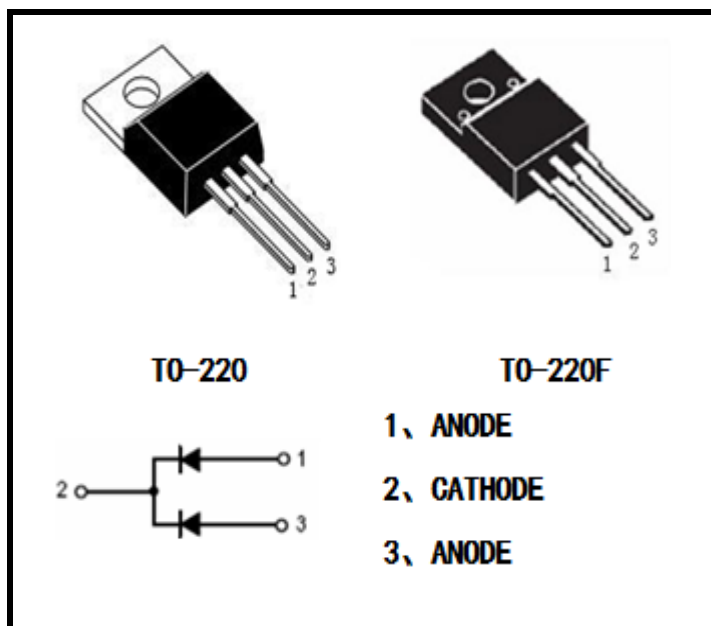


PRODUCT FEATURES

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

APPLICATIONS

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS


ABSOLUTE MAXIMUM RATINGS
 $T_C=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Test Conditions	Max.	Unit
V_R	D.C. Reverse Voltage		400	V
V_{RRM}	Repetitive Reverse Voltage		400	V
$I_{F(AV)}$ (per leg)	Average Forward Current	$T_C=110^{\circ}\text{C}$, Duty=0.5	8	A
$I_{F(AV)}$ (Total)			16	
I_{FM}	Peak Repetitive Forward Current	$T_C=110^{\circ}\text{C}$, Duty=0.5	16	A
I_{FSM}	Non-Repetitive Surge Forward Current	$T=45^{\circ}\text{C}$, 8.3ms	120	A
T_J	Junction Temperature		-55 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range		-55 to +150	$^{\circ}\text{C}$

ELECTRICAL AND THERMAL CHARACTERISTICS
 $T_C=25^{\circ}\text{C}$ unless otherwise specified

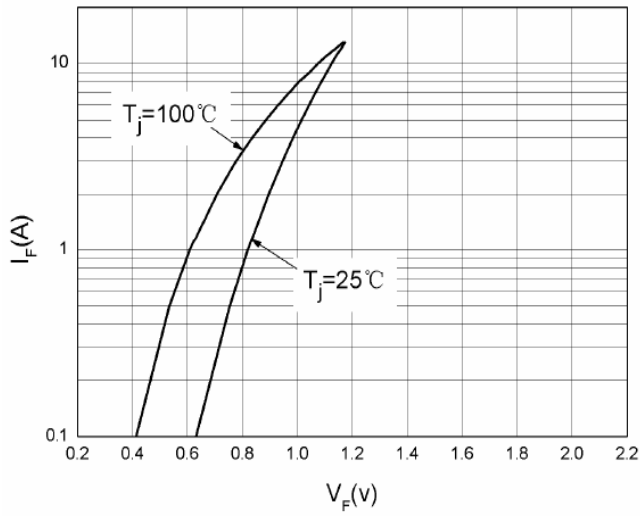
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
I_{RM}	Reverse Leakage Current	$V_R=400\text{V}$, $T_J=25^{\circ}\text{C}$	--	--	25	μA	
		$V_R=400\text{V}$, $T_J=125^{\circ}\text{C}$	--	--	500	μA	
V_F	Forward Voltage	$I_F=8\text{A}$, $T_J=25^{\circ}\text{C}$	--	1.1	1.4	V	
		$I_F=8\text{A}$, $T_J=125^{\circ}\text{C}$	--	0.9	--	V	
t_{rr}	Reverse Recovery Time ($I_F=1\text{A}$, $V_R=30\text{V}$, $di_F/dt=-200\text{A}/\mu\text{s}$)		--	35	40	ns	
t_{rr}	Reverse Recovery Time	$I_F=8\text{A}$ $V_R=400\text{V}$ $di_F/dt=-200\text{A}/\mu\text{s}$	$T_J=25^{\circ}\text{C}$	--	55	--	ns
t_{rr}	Reverse Recovery Time		$T_J=125^{\circ}\text{C}$	--	75	--	ns
Q_{rr}	Reverse Recovery Charge		$T_J=125^{\circ}\text{C}$	--	210	--	nC
I_{RRM}	Max. Reverse Recovery Current		$T_J=125^{\circ}\text{C}$	--	5	--	A

THERMAL CHARACTERISTICS

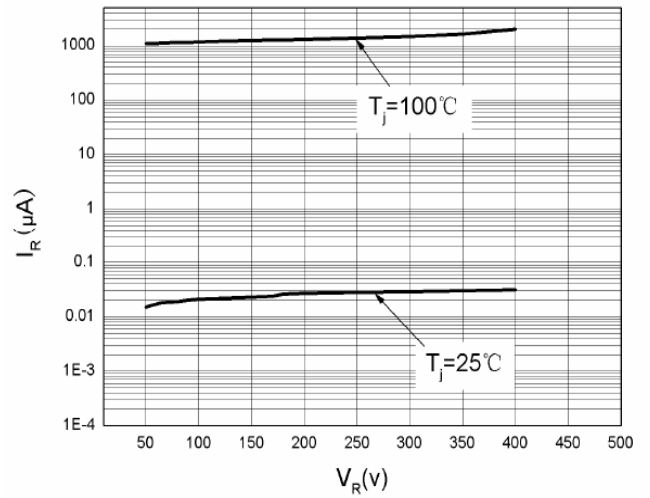
Rating	Symbol	Value		Unit
Maximum Thermal Resistance	θ_{JC}	TO-220	2	$^{\circ}\text{C}/\text{W}$
		TO-220F	4	



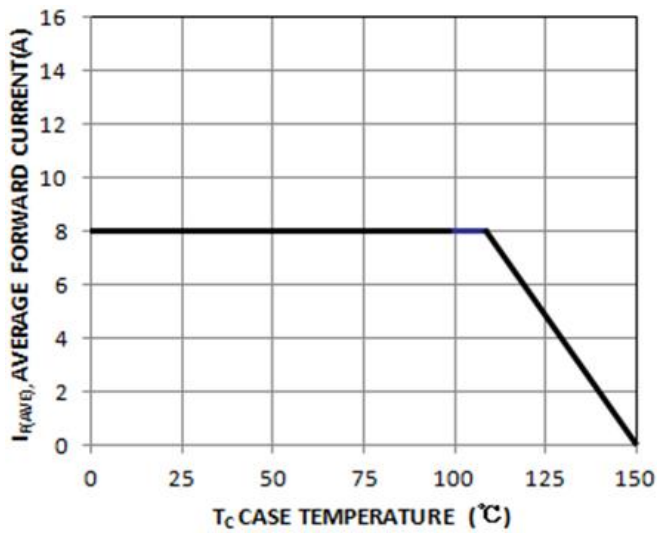
Characteristics Curves



Typical Forward Voltage Per Diode



Typical Reverse Current Per Diode



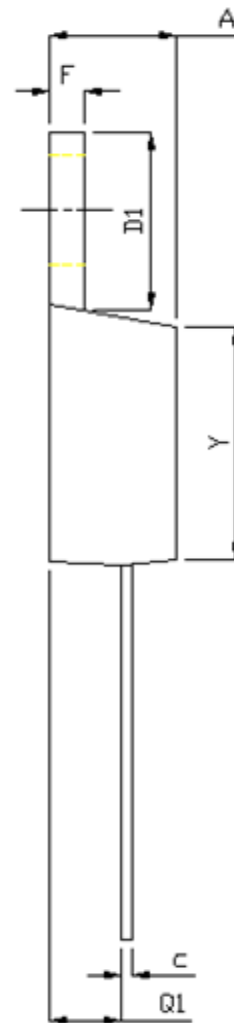
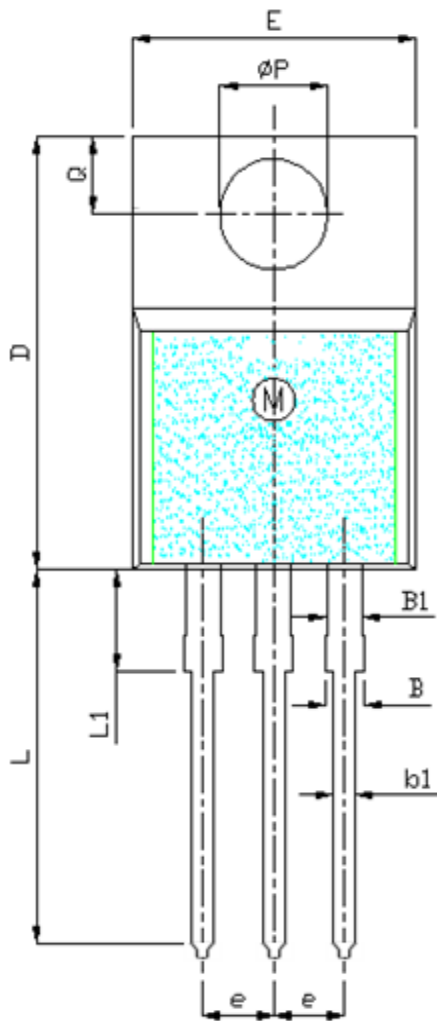
Average Forward Current vs. Case Temperature Per Diode



TO-220 MECHANICAL DATA

UNIT: mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	4.00		4.80	e	2.44	2.54	2.64
B	1.20		1.40	F	1.10		1.40
B1	1.00		1.40	L	12.50		14.50
b1	0.75		0.95	L1	3.00	3.50	4.00
c	0.40		0.55	ΦP	3.70	3.80	3.90
D	15.00		16.50	Q	2.50		3.00
D1	5.90		6.90	Q1	2.00		2.90
E	9.90		10.70	Y	8.02	8.12	8.22



TO-220F MECHANICAL DATA

UNIT: mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	4.5		4.9	E1	6.5	7	7.5
A1	2.3		2.9	e	2.44	2.54	2.64
b	0.65		0.9	L	12.5		14.3
b1	1.1		1.7	L1	9.45		10.05
b2	1.2		1.4	L2	15		16
c	0.35		0.65	L3	3.2		4.4
D	14.5		16.5	ΦP	3		3.3
D1	6.1		6.9	Q	2.5		2.9
E	9.6		10.3				

