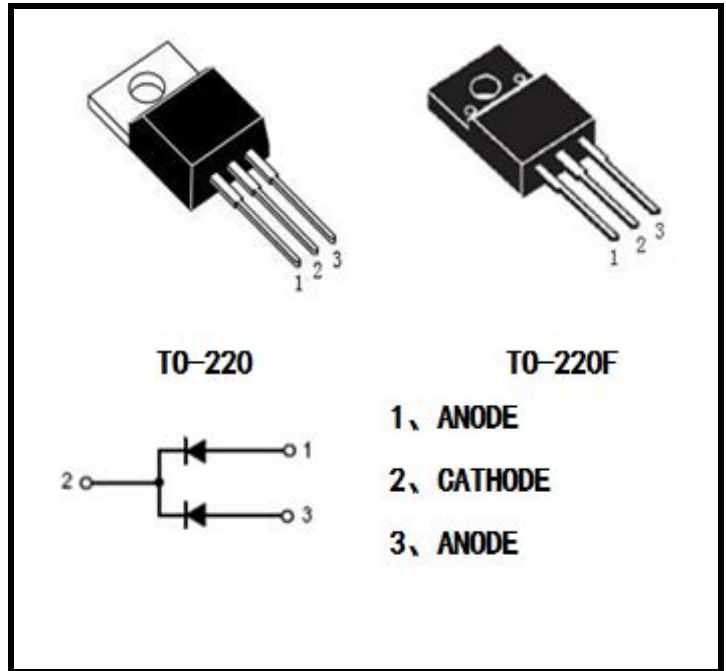


**PRODUCT FEATURES**

- 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

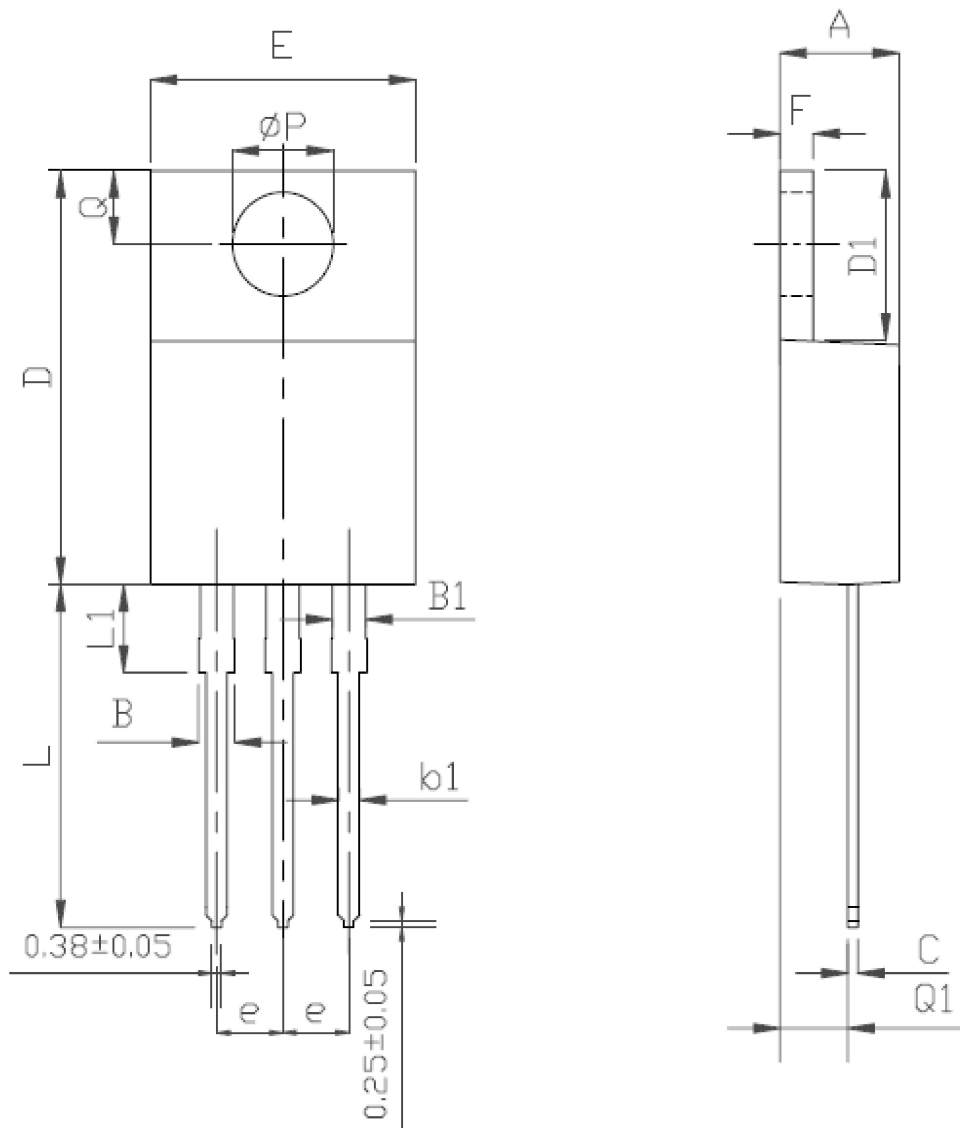
Symbol	Parameter	Test Conditions	Max.	Unit
$V_R$	D.C. Reverse Voltage		600	V
$V_{RRM}$	Repetitive Reverse Voltage		600	V
$I_{F(AV)}$ (per leg)	Average Forward Current	$T_C=110^{\circ}\text{C}$ , Duty=0.5	5	A
$I_{F(AV)}$ (Total)			10	
$I_{FSM}$	Non-Repetitive Surge Forward Current	$T=45^{\circ}\text{C}$ , 8.3ms	60	A
$T_J$	Junction Temperature		-55 to +175	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature Range		-55 to +175	$^{\circ}\text{C}$

**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	$V_R=600\text{V}$ , $T_J=25^{\circ}\text{C}$	--	--	10	$\mu\text{A}$	
		$V_R=600\text{V}$ , $T_J=125^{\circ}\text{C}$	--	--	150	$\mu\text{A}$	
$V_F$	Forward Voltage	$I_F=5\text{A}$ , $T_J=25^{\circ}\text{C}$	--	--	1.5	V	
		$I_F=5\text{A}$ , $T_J=125^{\circ}\text{C}$	--	1.2	--	V	
$t_{rr}$	Reverse Recovery Time ( $I_F=1\text{A}$ , $V_R=30\text{V}$ , $di_F/dt=-200\text{A}/\mu\text{s}$ )		--	30	--	ns	
$t_{rr}$	Reverse Recovery Time	$I_F=5\text{A}$ $V_R=400\text{V}$ $di_F/dt=-200\text{A}/\mu\text{s}$	$T_J=25^{\circ}\text{C}$	--	55	--	ns
$t_{rr}$	Reverse Recovery Time		$T_J=125^{\circ}\text{C}$	--	95	--	ns
$Q_{rr}$	Reverse Recovery Charge		$T_J=125^{\circ}\text{C}$	--	260	--	nC
$I_{RRM}$	Max. Reverse Recovery Current		$T_J=125^{\circ}\text{C}$	--	6.5	--	A

**TO-220 MECHANICAL DATA**
**UNIT: mm**

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	4		4.8	e	2.44	2.54	2.64
B	1.2		1.4	F	1.1		1.4
B1	1		1.4	L	12.5		14.5
b1	0.75		0.95	LI	3	3.5	4
c	0.4		0.55	ΦP	3.7	3.8	3.9
D	15		16.5	Q	2.5		3
D1	5.9		6.9	Q1	2		2.9
E	9.9		10.7				



**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				

