

Features

- 600V Diode Technology
- Fast Recovery
- Soft Switching
- Low Forward Voltage
- RoHS Compliant
- JEDEC Qualification

Applications

- General Rectification



Cathode Anode



Device	Package	Marking	Remark
TDPF20B60	TO-220F-2L	TDPF20B60	RoHS

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
Reverse Blocking Voltage	V_R	600	V
Average Rectified Forward Current	$I_{F(AV)}$	20	A
Non-Repetitive Peak Surge Current 60Hz Single Half Sine Wave	I_{FSM}	200	A
Storage Temperature Range	T_{STG}	-55 ~ 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Maximum Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	2.5	°C/W

Electrical Characteristics $T_C=25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
STATIC							
Forward Voltage Drop	V_F	$I_F=20\text{A}, T_C=25^\circ\text{C}$	--	1.6	2.1	V	
		$I_F=20\text{A}, T_C=150^\circ\text{C}$	--	1.4	1.9	V	
Reverse Leakage Current	I_R	$V_R = 600\text{V}$	--	--	100	μA	
DYNAMIC							
Reverse Recovery Time	t_{rr}	$V_R = 400\text{V}, I_F = 20\text{A},$ $di/dt=200\text{A}/\mu\text{s}$	$T_C=25^\circ\text{C}$	--	56	--	ns
			$T_C=150^\circ\text{C}$	--	140	--	
Reverse Recovery Current	I_{rr}		$T_C=25^\circ\text{C}$	--	4.9	--	A
			$T_C=150^\circ\text{C}$	--	8.6	--	
Reverse Recovery Charge	Q_{rr}		$T_C=25^\circ\text{C}$	--	158	--	nC
			$T_C=150^\circ\text{C}$	--	796	--	

Fig.1 Forward voltage drop vs. Forward current

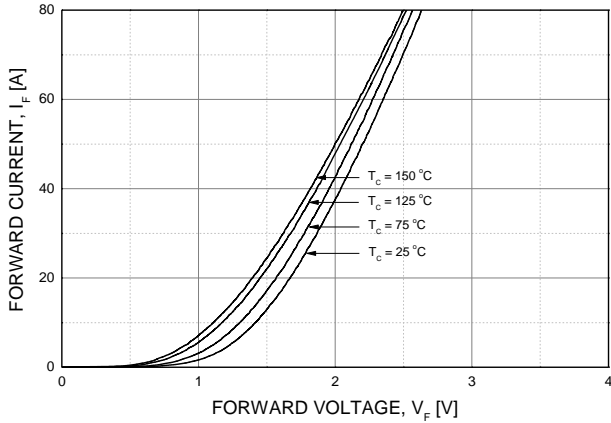


Fig 2. Reverse voltage vs. Reverse current

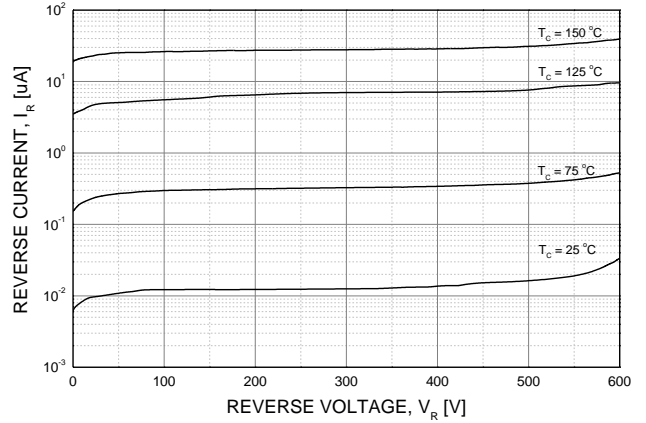


Fig 3. Junction capacitance

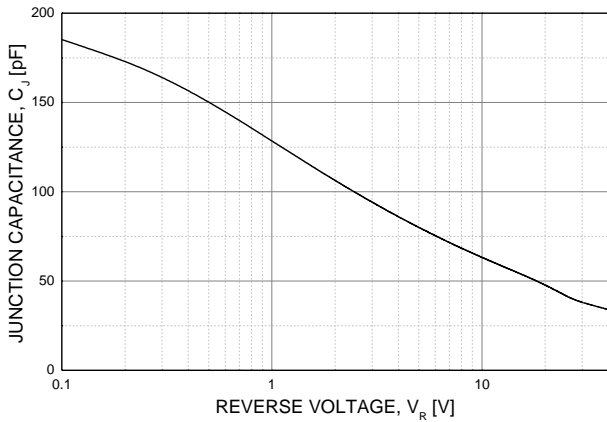


Fig 4. Reverse recovery time vs. di/dt

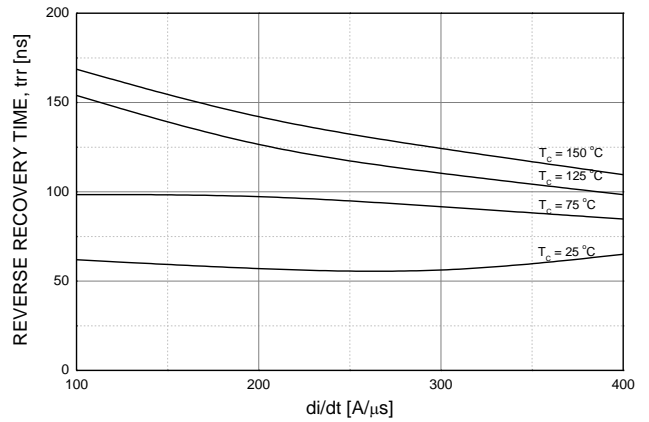


Fig 5. Reverse recovery current vs. di/dt

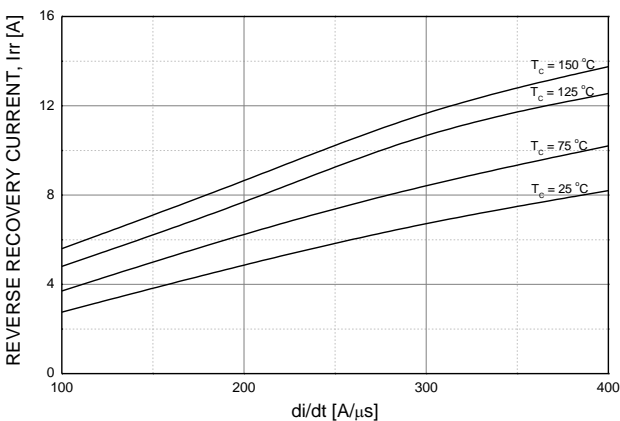
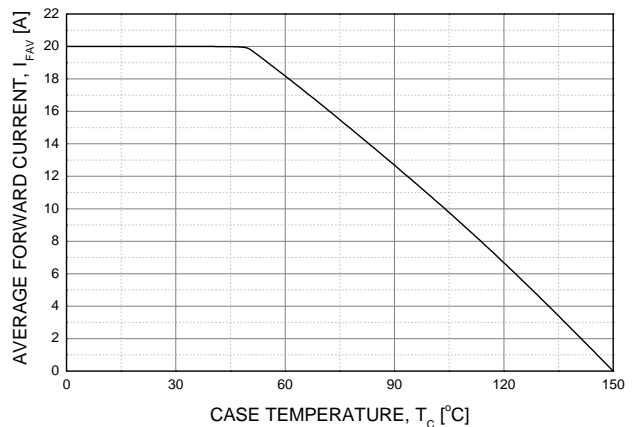
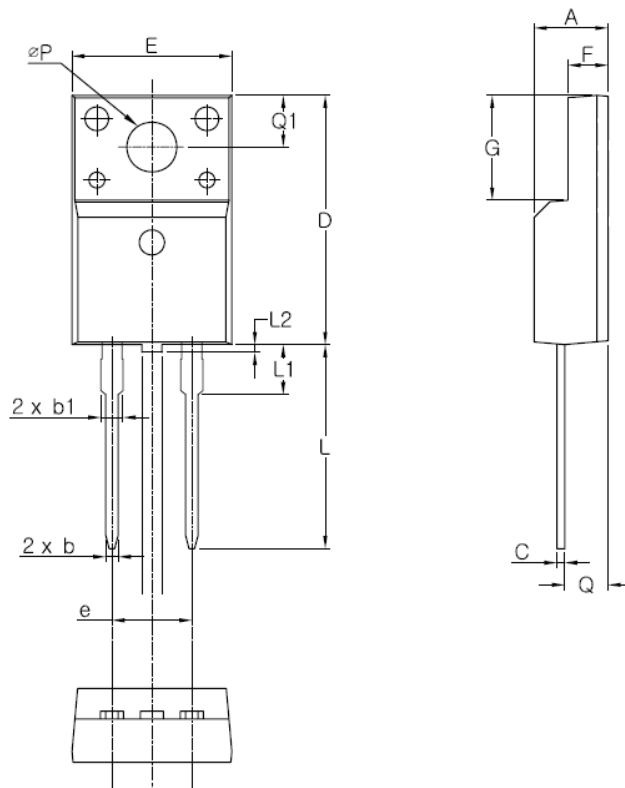


Fig 6. Case temperature vs. Forward current



TO-220F-2L MECHANICAL DATA


SYMBOL	MIN	MAX
A	4.50	4.93
b	0.70	0.91
b1	1.15	1.47
C	0.45	0.60
D	15.67	16.07
E	9.96	10.36
e	5.08 BSC	
F	2.34	2.74
G	6.48	6.90
L	12.78	13.18
L1	2.90	3.38
Q	2.56	2.96
Q1	3.10	3.50
ØP	2.98	3.38

Disclaimer :

TRinno technology reserves the right to make changes without notice to products herein to improve reliability, performance, or design. The information given in this document is believed to be accurate and reliable. However, it shall in no event be regarded as a guarantee of conditions and characteristics. With respect to any information regarding the application of the device, TRinno technology hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of patent rights of any third party.