

Features

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

Applications

- General Rectification



Cathode Anode



Device	Package	Marking	Remark
TDPF30B60	TO-220F-2L	TDPF30B60	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	$I_{F(AV)}$	30	A
Non-Repetitive Peak Surge Current 60Hz Single Half Sine Wave	I_{FSM}	300	A
Storage Temperature Range	T_{STG}	-55 ~ 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Maximum Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.5	°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	$I_F=30\text{A}, T_C=25^\circ\text{C}$	--	1.5	2.0	V	
		$I_F=30\text{A}, T_C=150^\circ\text{C}$	--	1.4	1.9	V	
Reverse Leakage Current	I_R	$V_R = 600\text{V}$	--	--	100	μA	
DYNAMIC							
Reverse Recovery Time	t_{rr}	$V_R = 400\text{V}, I_F = 30\text{A},$ $di/dt=200\text{A}/\mu\text{s}$	$T_C=25^\circ\text{C}$	--	85	--	ns
			$T_C=150^\circ\text{C}$	--	190	--	
Reverse Recovery Current	I_{rr}		$T_C=25^\circ\text{C}$	--	6.5	--	A
			$T_C=150^\circ\text{C}$	--	12.5	--	
Reverse Recovery Charge	Q_{rr}		$T_C=25^\circ\text{C}$	--	350	--	nC
			$T_C=150^\circ\text{C}$	--	1600	--	

Fig.1 Forward voltage drop vs. Forward current

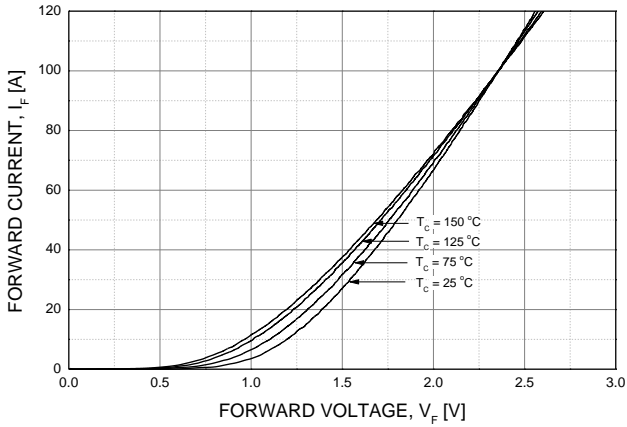


Fig 2. Reverse voltage vs. Reverse current

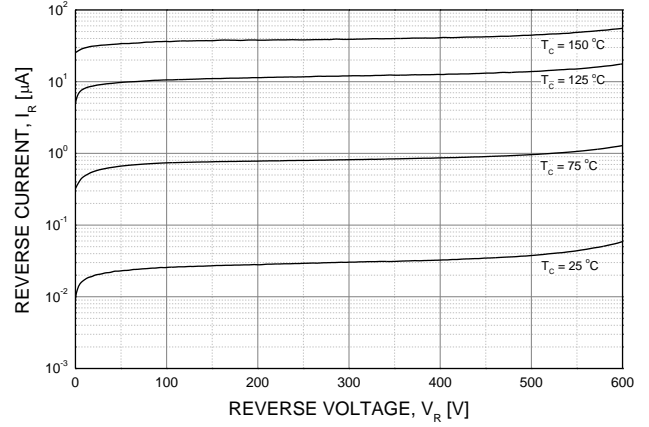


Fig 3. Junction capacitance

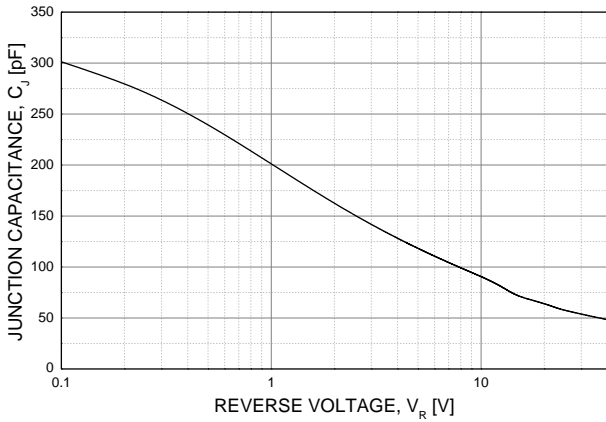


Fig 4. Reverse recovery time vs. di/dt

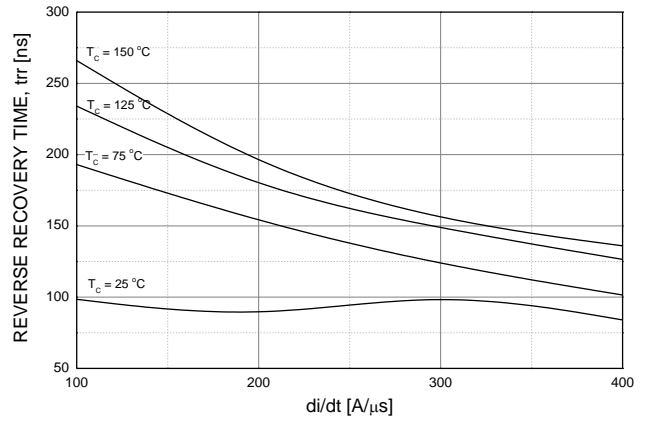


Fig 5. Reverse recovery current vs. di/dt

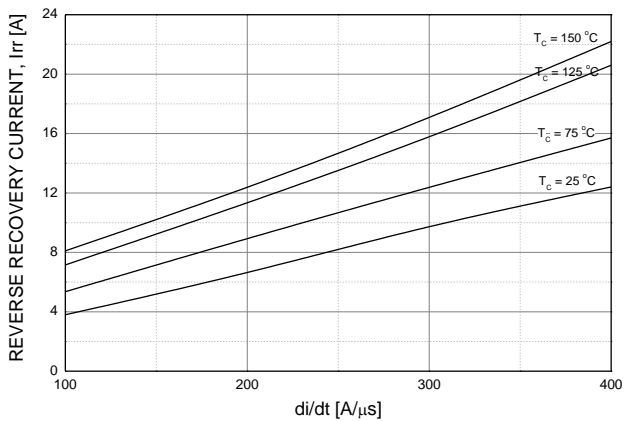
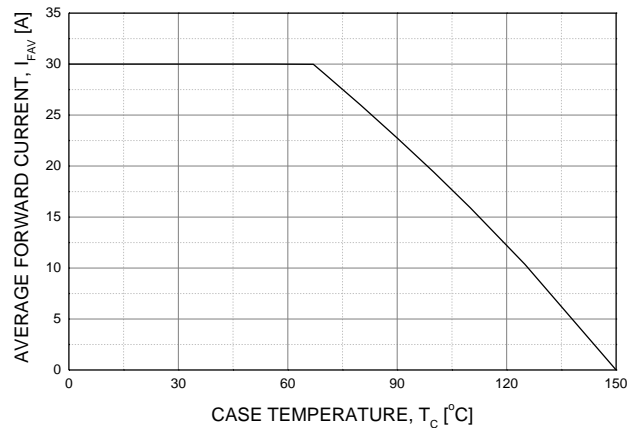
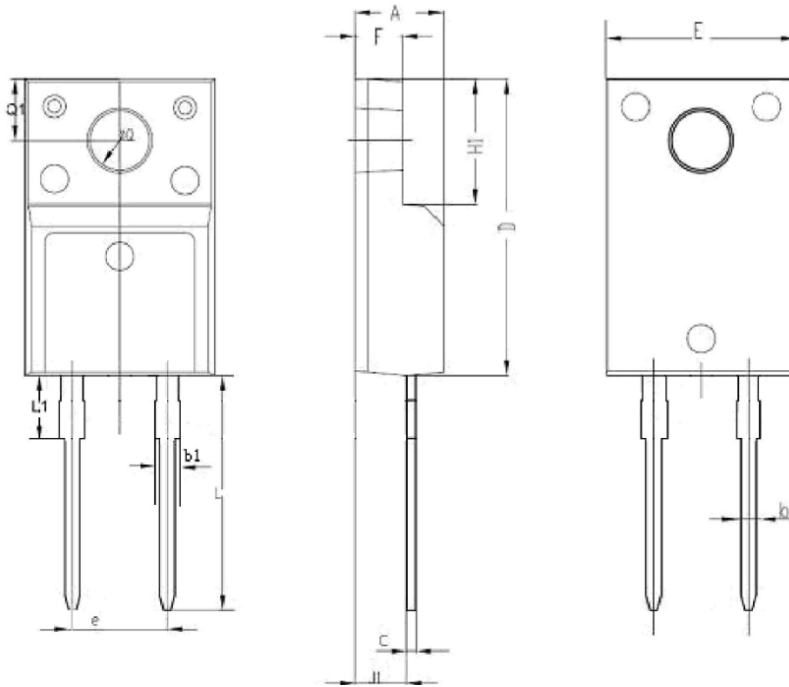


Fig 6. Case temperature vs. Forward current



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

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