TDPF20B60

600V, 20A Fast Recovery Diode

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	T_C = 49 ℃	$I_{F(AV)}$	20	A
Non-Repetitive Peak Surge Current 60Hz Single Half Sine Wave		I_{FSM}	200	A
Storage Temperature Range		T_{STG}	-55 ~ 150	℃

Thermal Characteristics

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

Electrical Characteristics T_C=25℃, unless otherwise noted

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

Fig.1 Forward voltage drop vs. Forward current

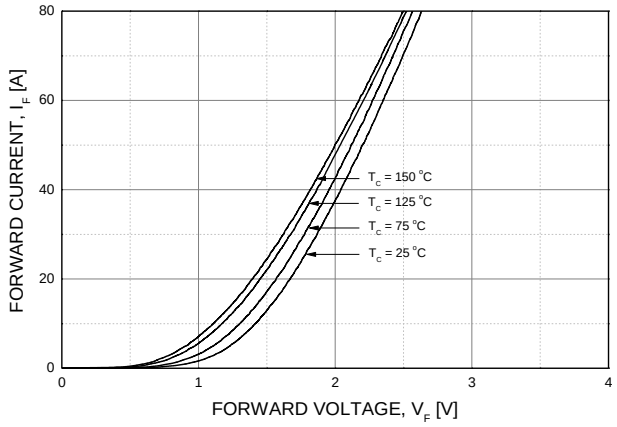


Fig 2. Reverse voltage vs. Reverse current

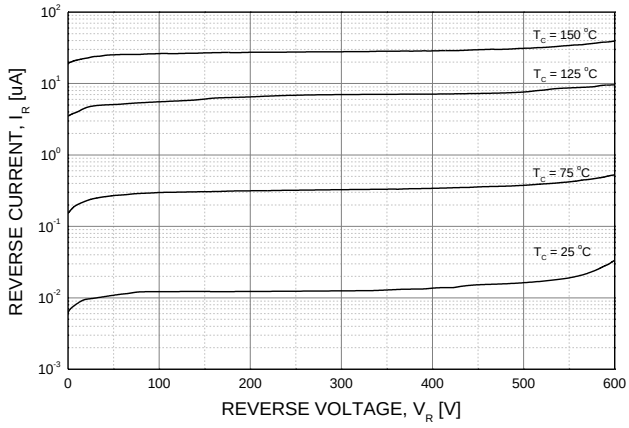


Fig 3. Junction capacitance

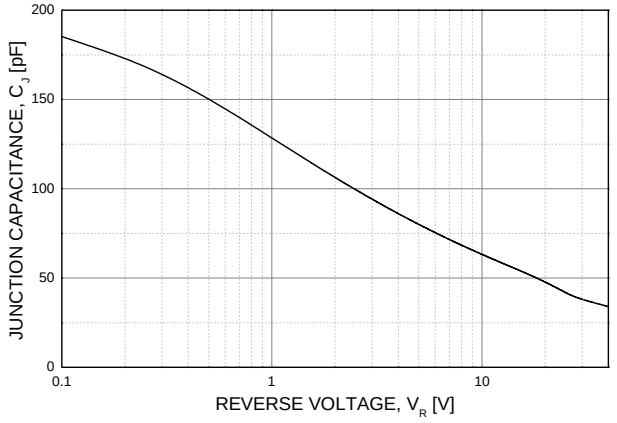


Fig 4. Reverse recovery time vs. di/dt

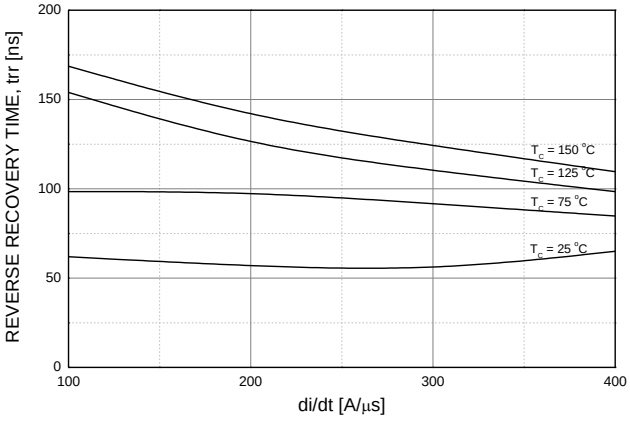


Fig 5. Reverse recovery current vs. di/dt

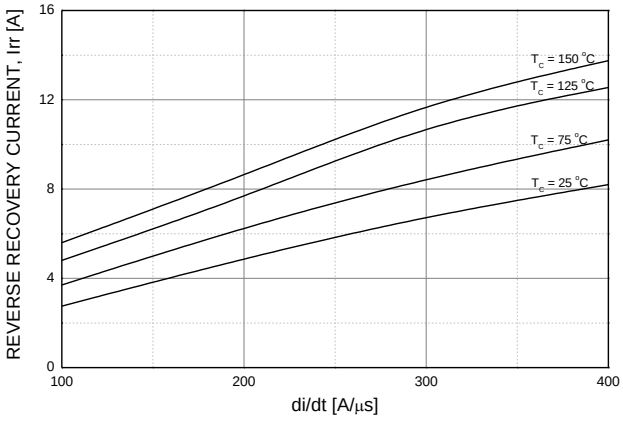
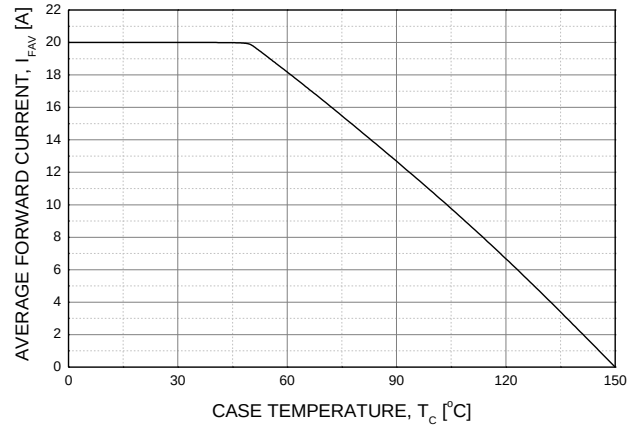
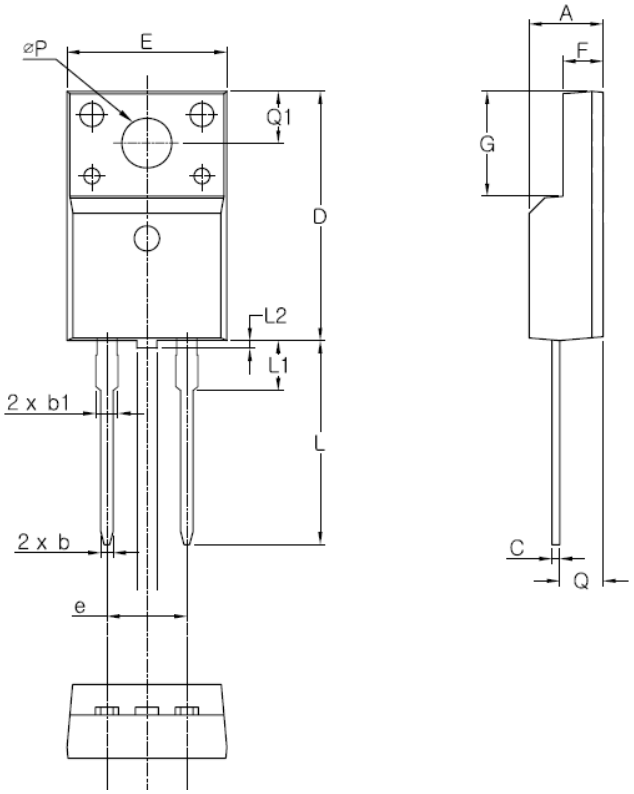


Fig 6. Case temperature vs. Forward current



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