

ESF75D60U/UC/FB

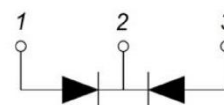
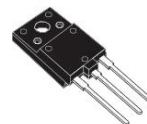
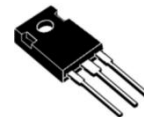
Ultra-Fast Recovery Diode

Features

- Repetitive Reverse Voltage : $V_{RRM} = 600V$
- Forward Voltage Drop : $V_F(\text{typ.}) = 1.4V$
- Average Forward Current : $I_F(\text{AV.}) = 75A$ @ $T_c = 100^\circ C$
- Fast Reverse Recovery Time : $t_{rr}(\text{typ.}) = 45ns$
- RoHS product

Applications

- Switching Power Supplies
- Power Switching Circuits
- Welding Machine
- UPS



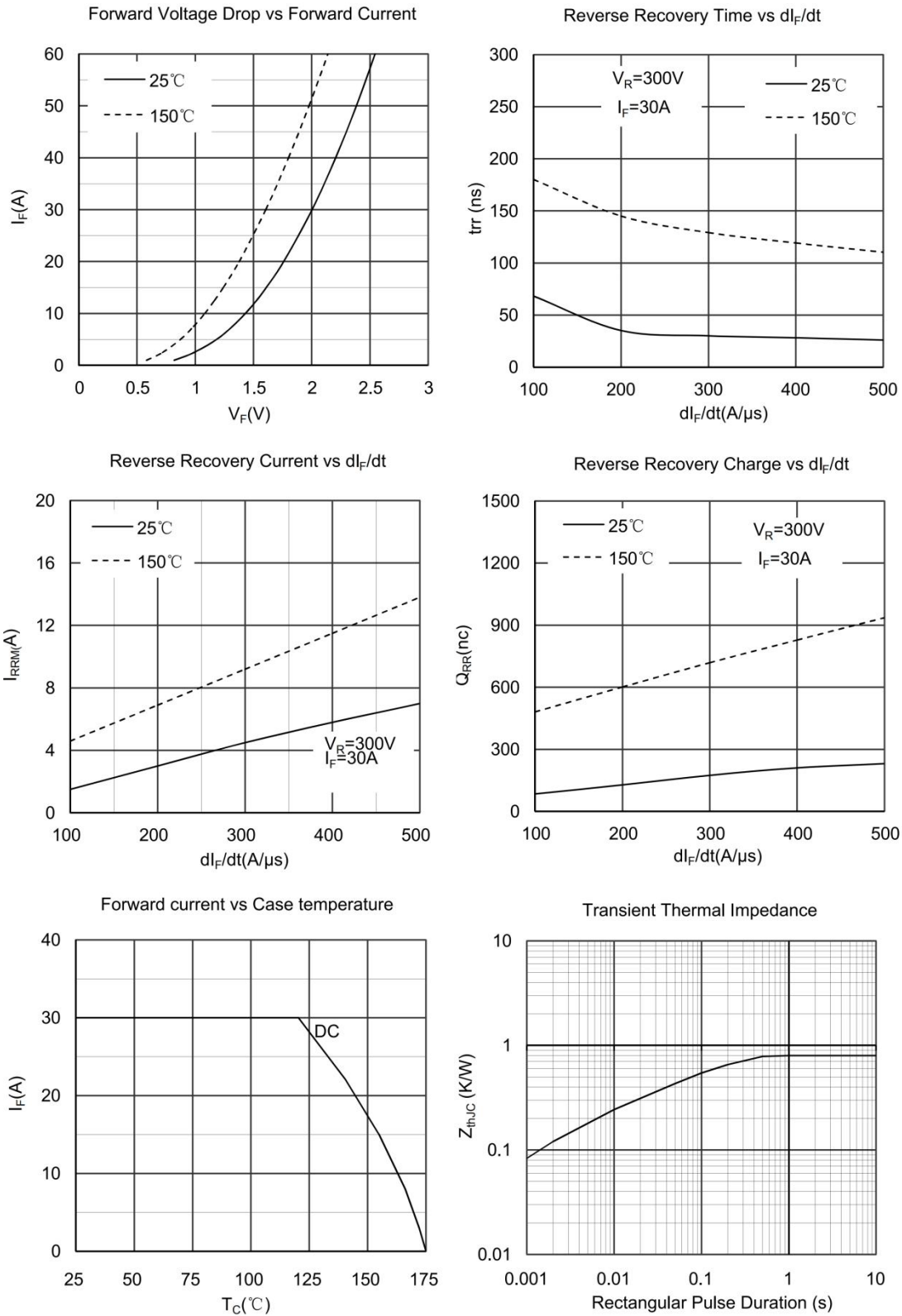
Absolute Maximum Ratings @ $T_c = 25^\circ C$

Symbol	Parameter	ratings	Unit
V_{RRM}	Repetitive peak reverse voltage @50 μA	600	V
V_{RWM}	Working Peak Reverse Voltage	600	V
$I_{F(AV)}$	Average forward current @ $T_c = 100^\circ C$	75	A
I_{FSM}	Peak one Cycle Surge Forward @ $t = 10ms$	650	A
P_D	Power Dissipation	185	W
T_j	Junction Temperature	-50~+150	$^\circ C$
T_{STG}	Storage temperature range	-50~+151	$^\circ C$

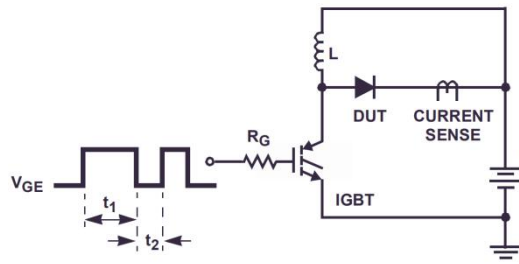
Electrical Specifications @ $T_c = 25^\circ C$

Symbol	Parameter		Ratings			Unit
			Min	Typ	Max	
I _R	T _J =25°C	V _R =V _{RRM}			10	μA
	T _J =125°C				1000	μA
V _F	T _J =25°C	I _F =40A		1.4	1.55	V
	T _J =125°C			1.0	1.26	V
T _{rr}	I _F =1A, V _R =300V, di _F /dt=-200A/μs			20	25	ns
	I _F =30A, V _R =300V, di _F /dt=-200A/μs			35	45	ns
R _{th(j-c)}	Thermal resistance from junction to case	TO-247/3PB			0.5	°C/W
R _{th(j-c)}		TO-3PF			1.3	°C/W

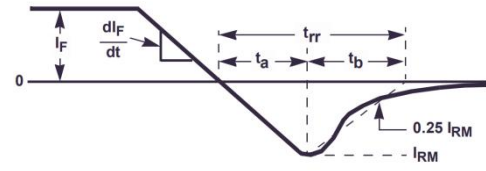
Typical Performance Curves



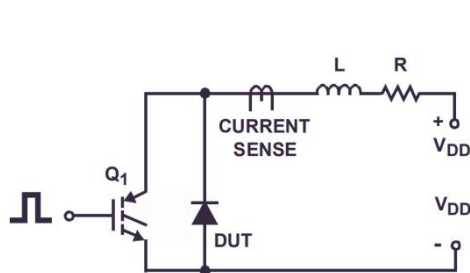
Test Circuits and Waveforms



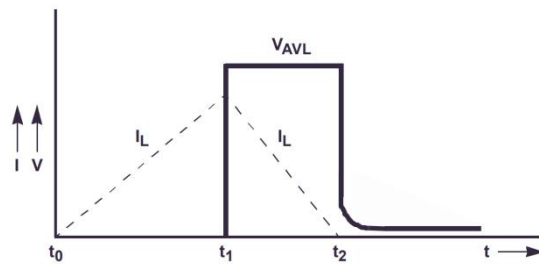
t_{rr} TEST CIRCUIT



t_{rr} WAVEFORMS AND DEFINITIONS

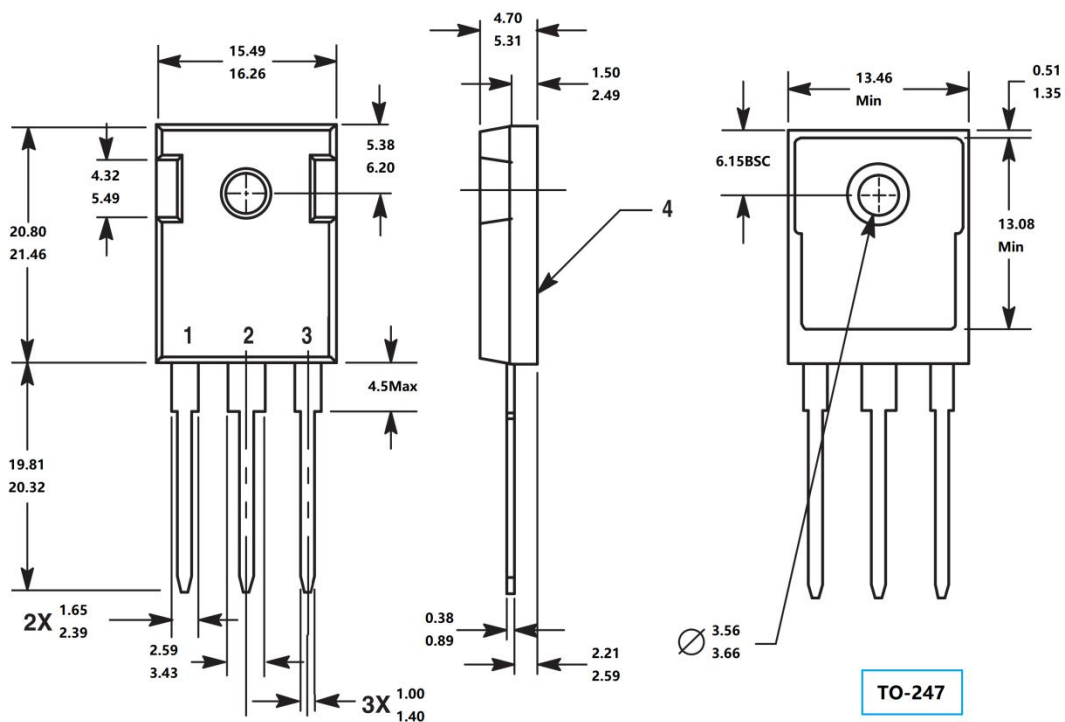


AVALANCHE ENERGY TEST CIRCUIT

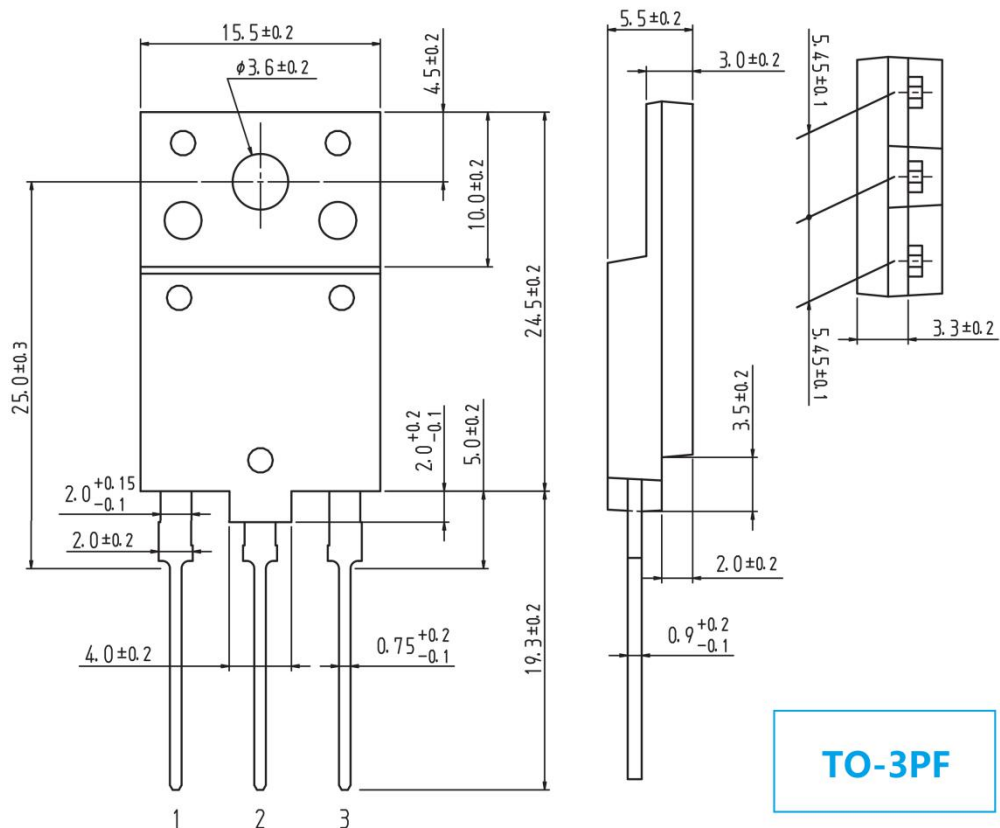
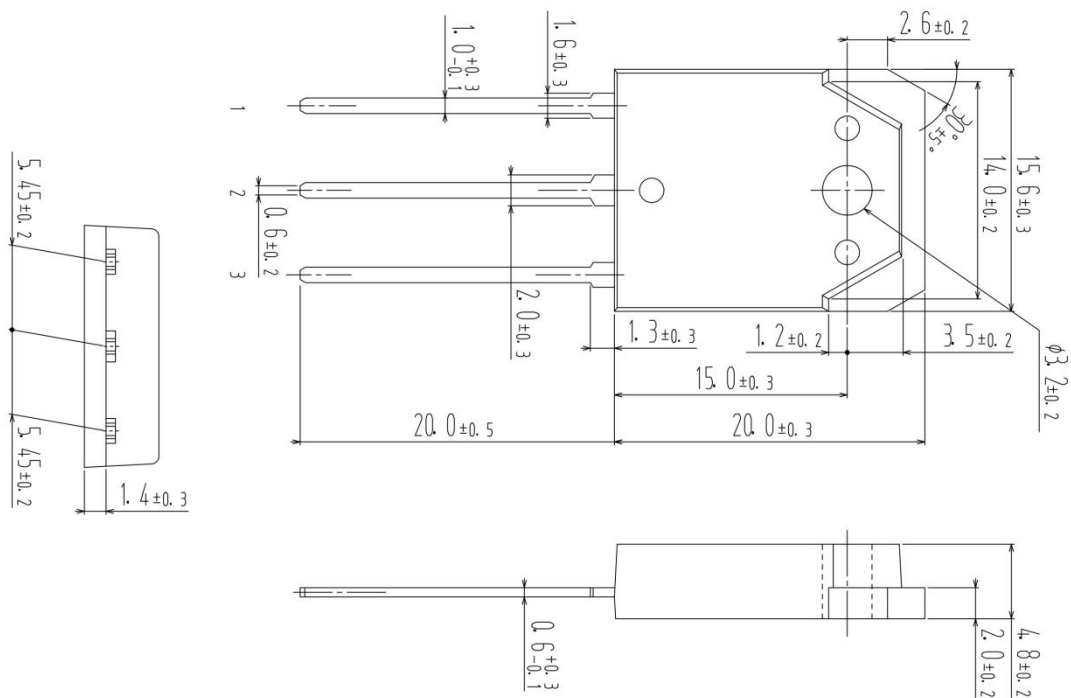


AVALANCHE CURRENT AND VOLTAGE WAVEFORMS

Package



TO-247



TO-3PF