

ESTF75D60U/UC/FB

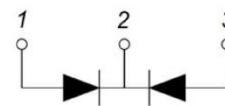
Ultra-Fast Recovery Diode

Features

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

Applications

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



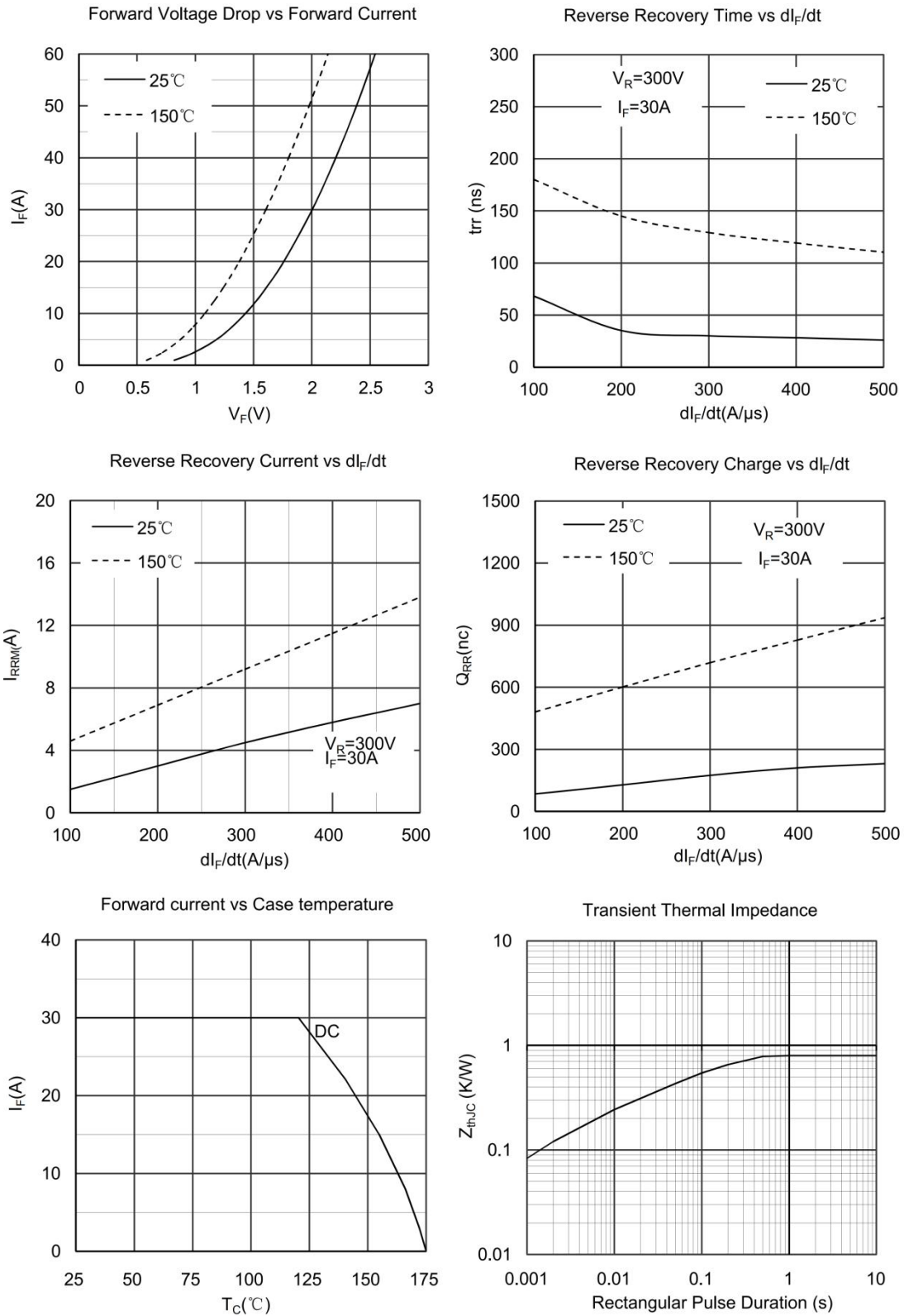
Absolute Maximum Ratings @ $T_c=25^\circ C$

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	$^\circ C$

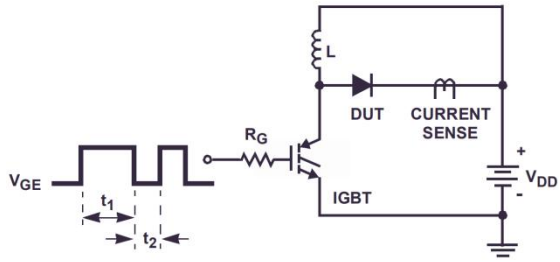
Electrical Specifications @ $T_c=25^\circ C$

Symbol	Parameter		Ratings			Unit
			Min	Typ	Max	
I_R	$T_j=25^\circ C$	$V_R=V_{RRM}$			10	μA
	$T_j=125^\circ C$				1000	μA
V_F	$T_j=25^\circ C$	$I_F=40A$		1.4	1.55	V
	$T_j=125^\circ C$			1.0	1.26	V
T_{rr}	$I_F=1A, V_R=300V, diF/dt=-200A/\mu s$			20	25	ns
	$I_F=30A, V_R=300V, diF/dt=-200A/\mu s$			35	45	ns
$R_{th(j-c)}$	Thermal resistance from junction to case	TO-247/3PB			0.5	$^\circ C/W$
$R_{th(j-c)}$		TO-3PF			1.3	$^\circ C/W$

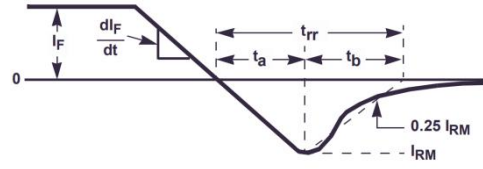
Typical Performance Curves



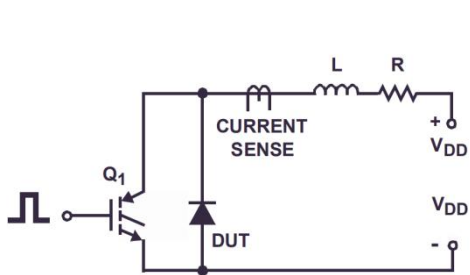
Test Circuits and Waveforms



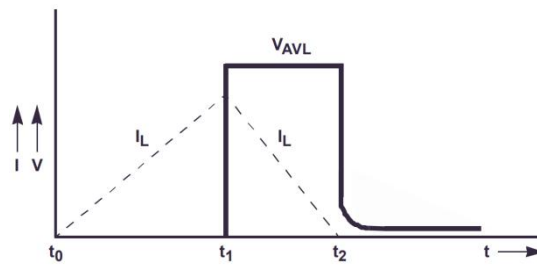
t_{rr} TEST CIRCUIT



t_{rr} WAVEFORMS AND DEFINITIONS

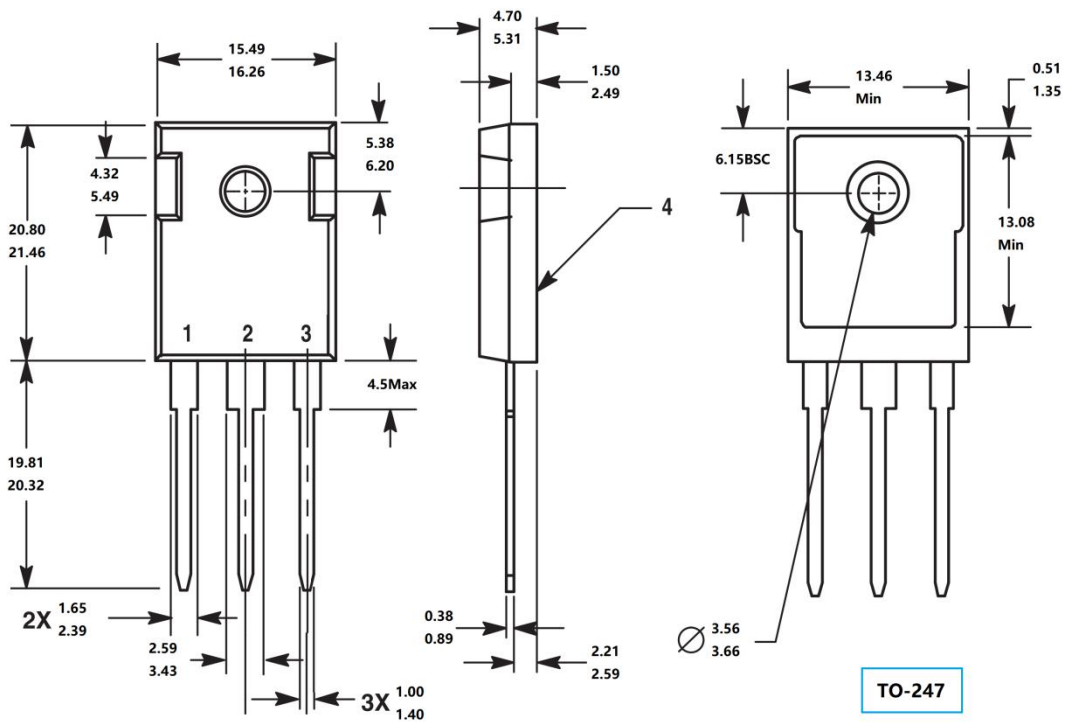


AVALANCHE ENERGY TEST CIRCUIT

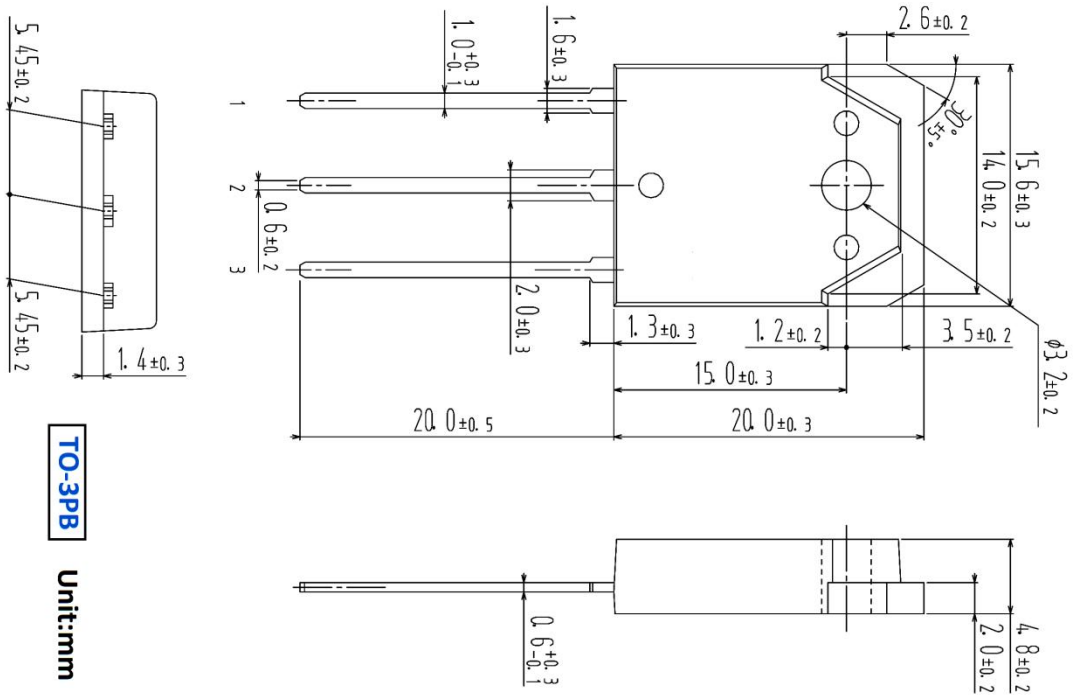


AVALANCHE CURRENT AND VOLTAGE WAVEFORMS

Package

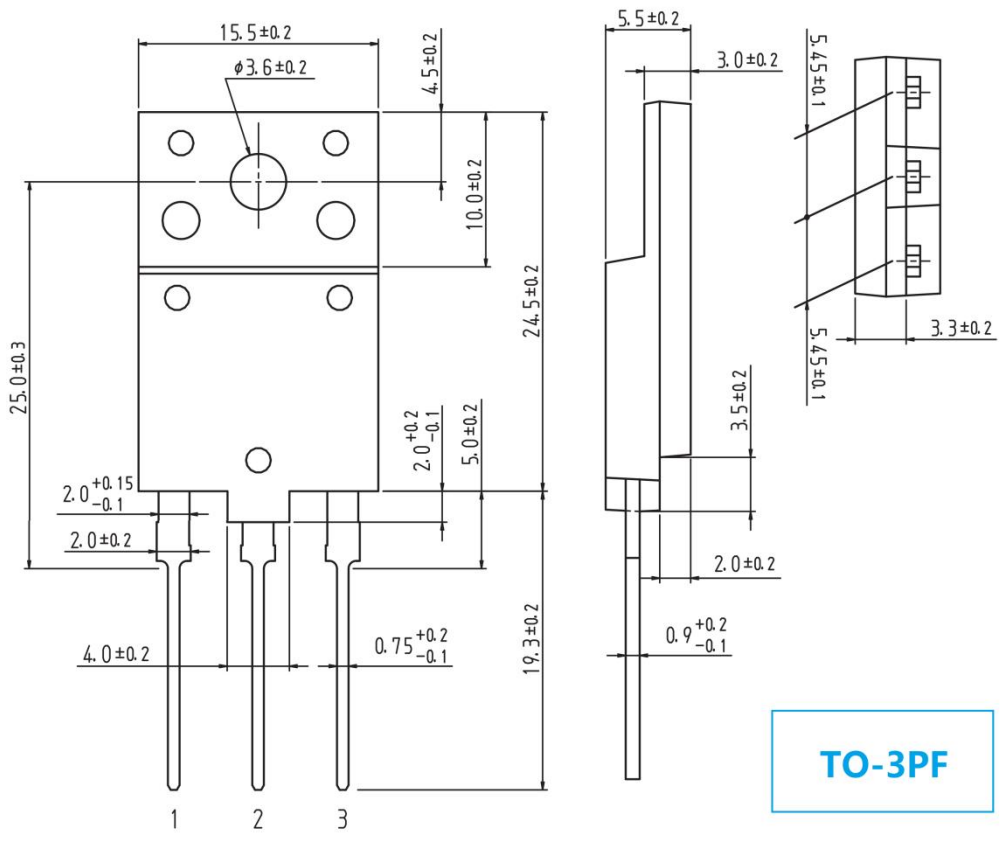


TO-247



TO-3PB

Unit:mm



TO-3PF

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