

ESTF8SS120C/S/D/P

Fast Recovery Diode

Features

- Repetitive Reverse Voltage : $V_{RRM} = 1200V$
- Forward Voltage Drop : $V_F(max.) = 3.2V$
- Average Forward Current : $I_F(AV.) = 8A @ T_c = 100^{\circ}C$
- Fast Reverse Recovery Time : $t_{rr}(Typ.) = 70ns$
- RoHS product

Applications

- Switching Power Supplies
- Power Switching Circuits
- General Purpose
- UPS



Absolute Maximum Ratings ($T_c=25^{\circ}C$, Unless other noted)

Symbol	Parameter	ratings	Unit
V_{RRM}	Repetitive peak reverse voltage @50 μA	1200	V
V_{RWM}	Working Peak Reverse Voltage	1200	V
$I_{F(AV)}$	Average forward current @ $T_c=100^{\circ}C$	8	A
I_{FSM}	Peak one Cycle Surge Forward @20KHz	270	A
P_D	Power dissipation(TO-220C-2L)	138	W
P_D	Power dissipation(TO-247-2L)	62	W
P_D	Power dissipation(TO-252)	54	W
P_D	Power dissipation(TO-220F-2L)	24	W
T_J	Junction Temperature	-50~+150	$^{\circ}C$
T_{STG}	Storage temperature range	-50~+150	$^{\circ}C$

Electrical Specifications ($T_c=25^{\circ}C$, Unless other noted)

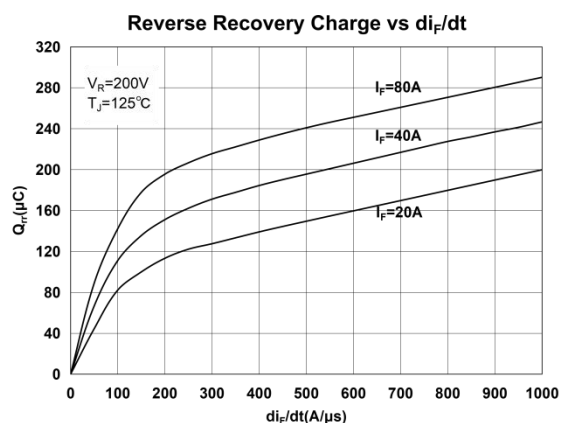
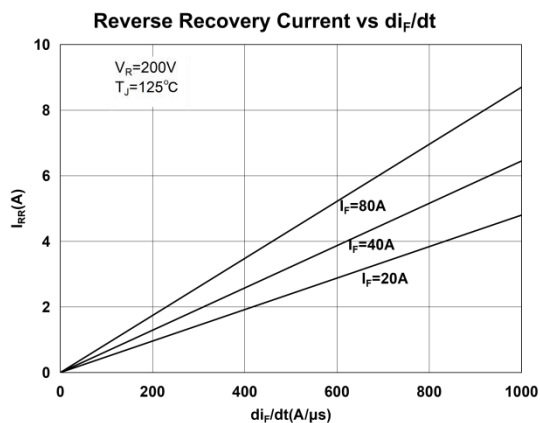
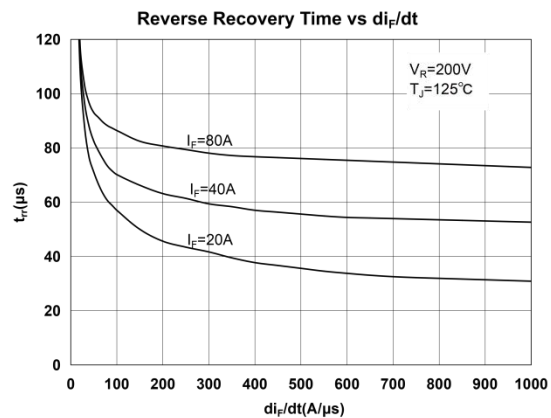
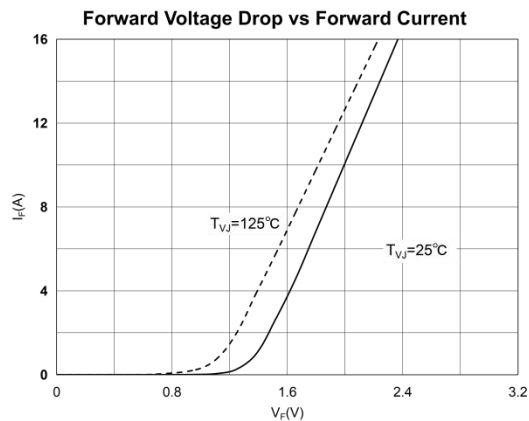
Symbol	Parameter	Test condition		Ratings			Unit
				Min	Typ	Max	
I _R	Reverse Leakage Current	T _J =25°C	V _R =V _{RRM} , I _F =8A			100	μA
		T _J =125°C				500	μA
V _F	Forward Voltage	T _J =25°C				3.2	V
		T _J =125°C				2.6	V
t _{rr}	Reverse recovery time	I _F =1A, V _R =30V, di _F /dt=-200A/μs			40	55	ns

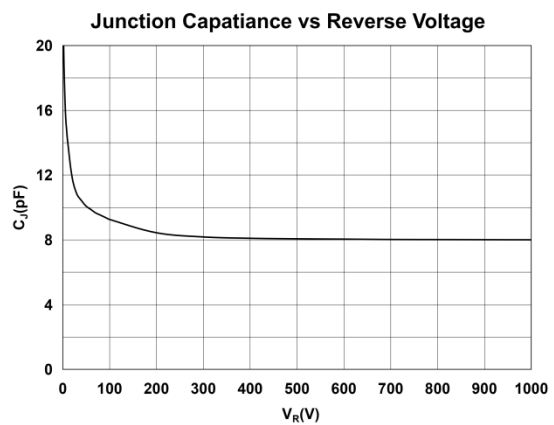
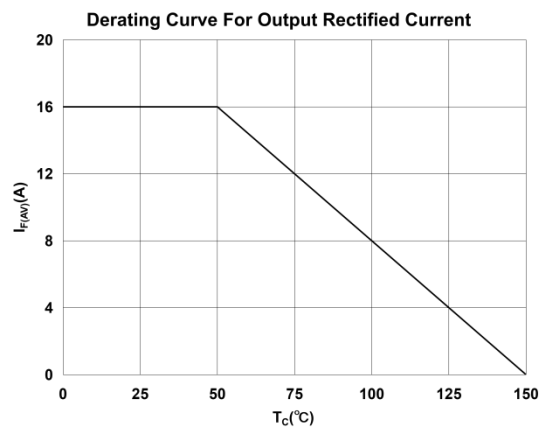
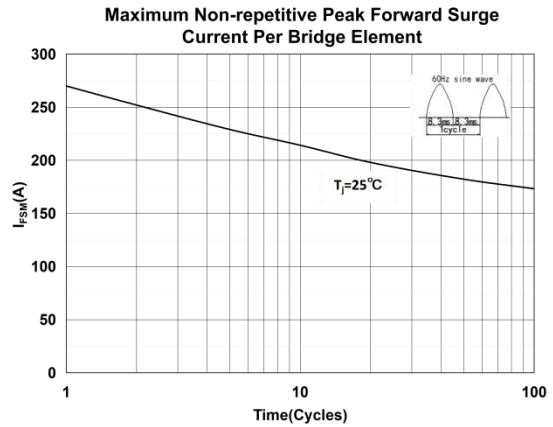
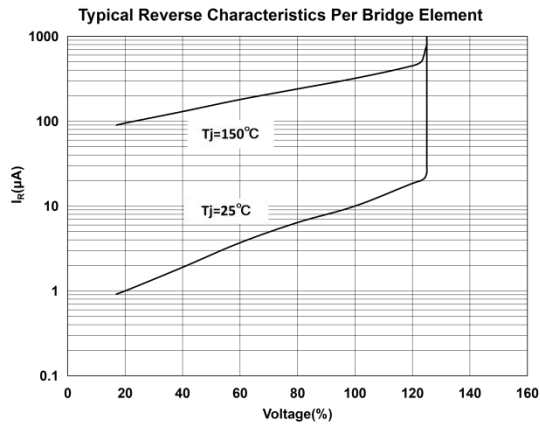
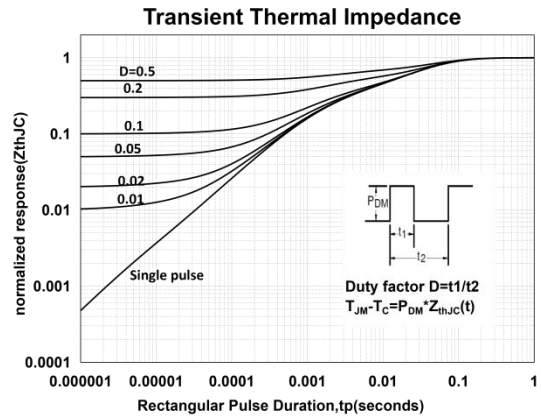
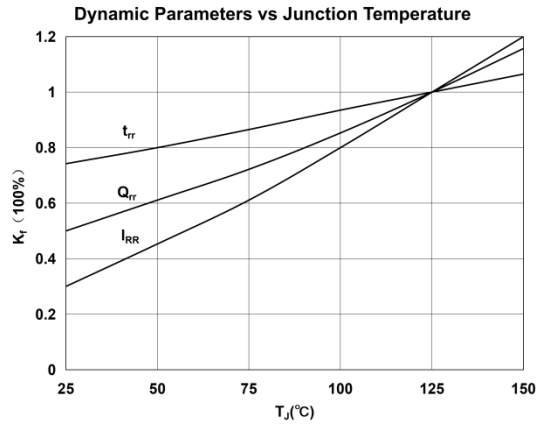
t_{rr}	Reverse recovery time	$I_F=4A, V_R=600V,$ $di_F/dt=-200A/\mu s$	-	70	-	ns
Q_{rr}	Reverse recovery time		-	151	-	nC
I_{rr}	Reverse recovery time		-	1.30	-	A
$R_{th(j-c)}$	Thermal resistance from junction to case	TO-247-2L			0.9	$^{\circ}C/W$
		TO-220C-2L			2	
		TO-252			2.3	
		TO-220F-2L			5.2	

Order Information

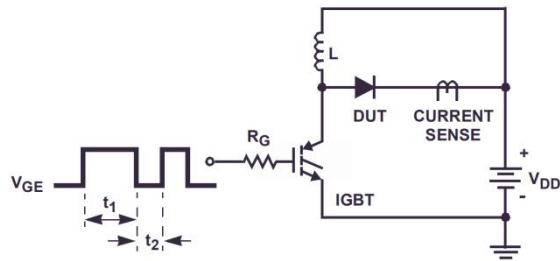
Order codes	Silkscreen	Package	Packaging
ESTF8SS120C	F8S120C	TO-220C-2L	
ESTF8SS120S	F8S120S	TO-247-2L	
ESTF8SS120D	F8S120D	TO-252	
ESTF8SS120P	F8S120P	TO-220F-2L	

Typical Performance Curves

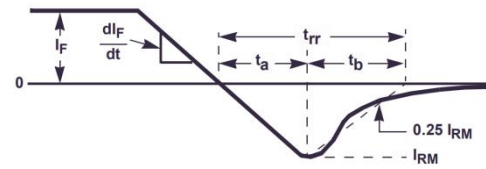




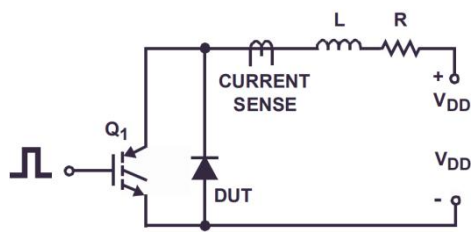
Test Circuits and Waveforms



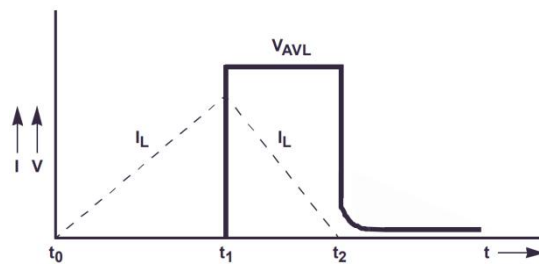
t_{rr} TEST CIRCUIT



t_{rr} WAVEFORMS AND DEFINITIONS

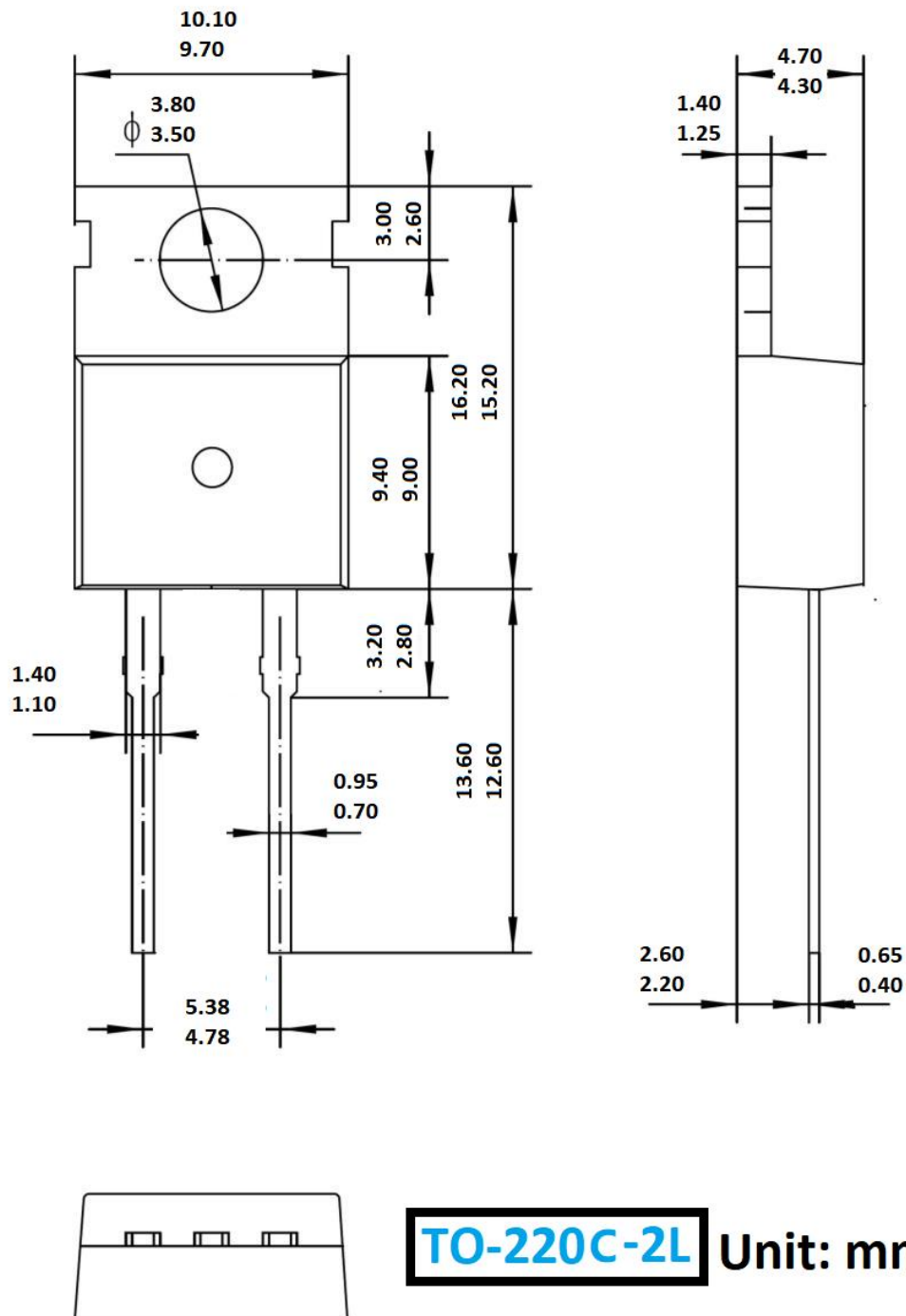


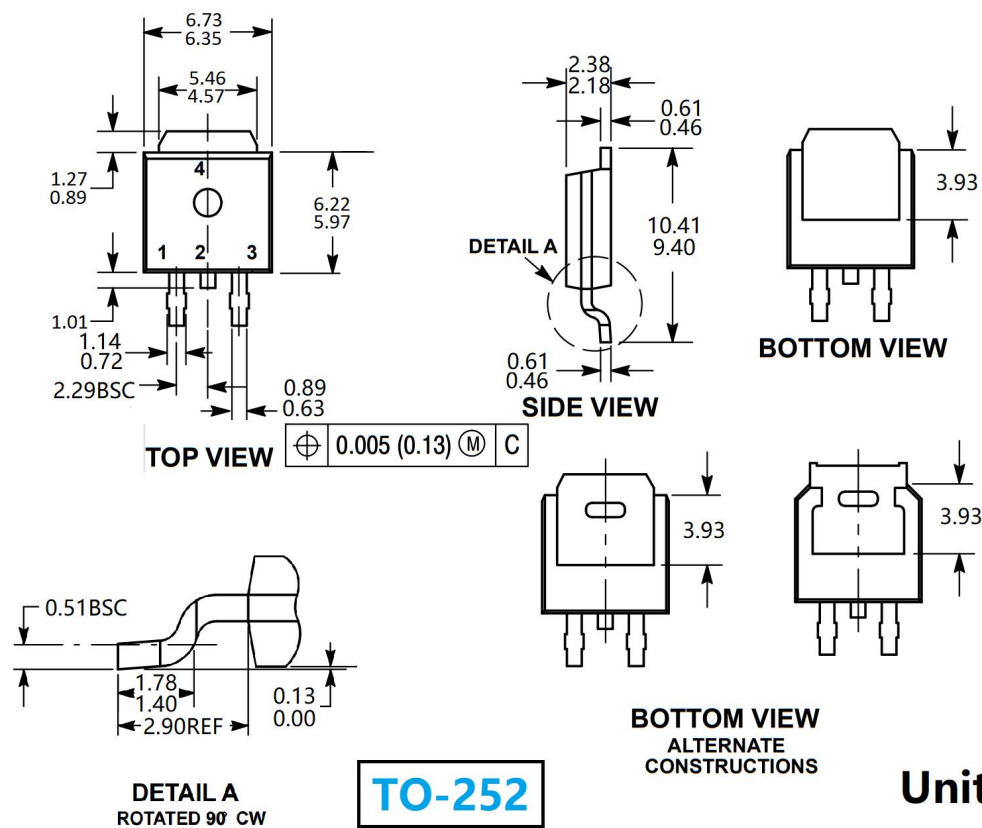
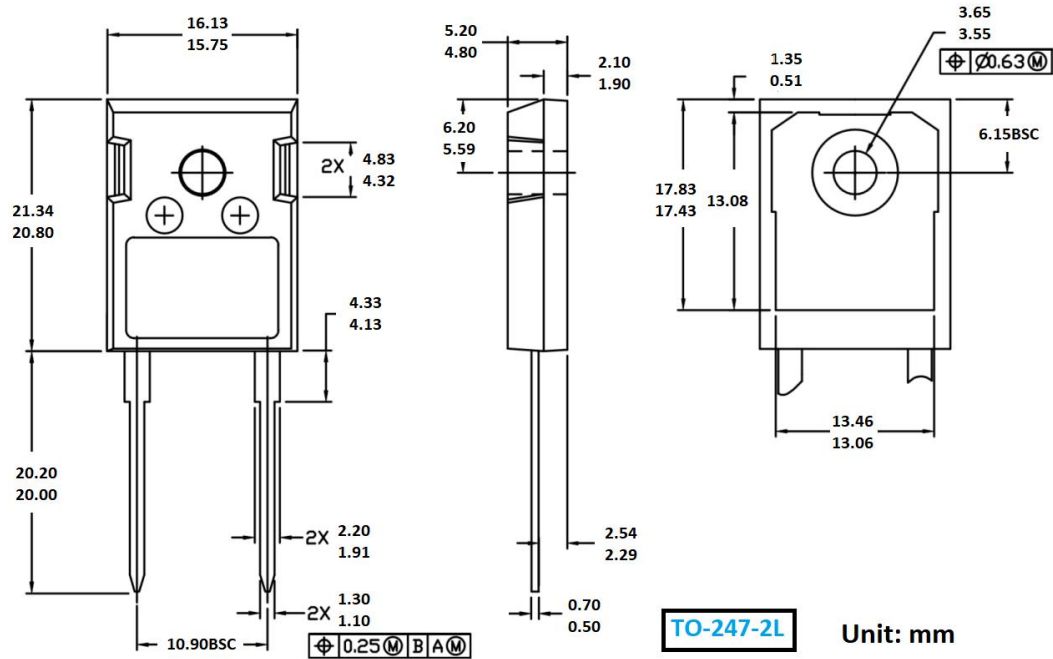
AVALANCHE ENERGY TEST CIRCUIT

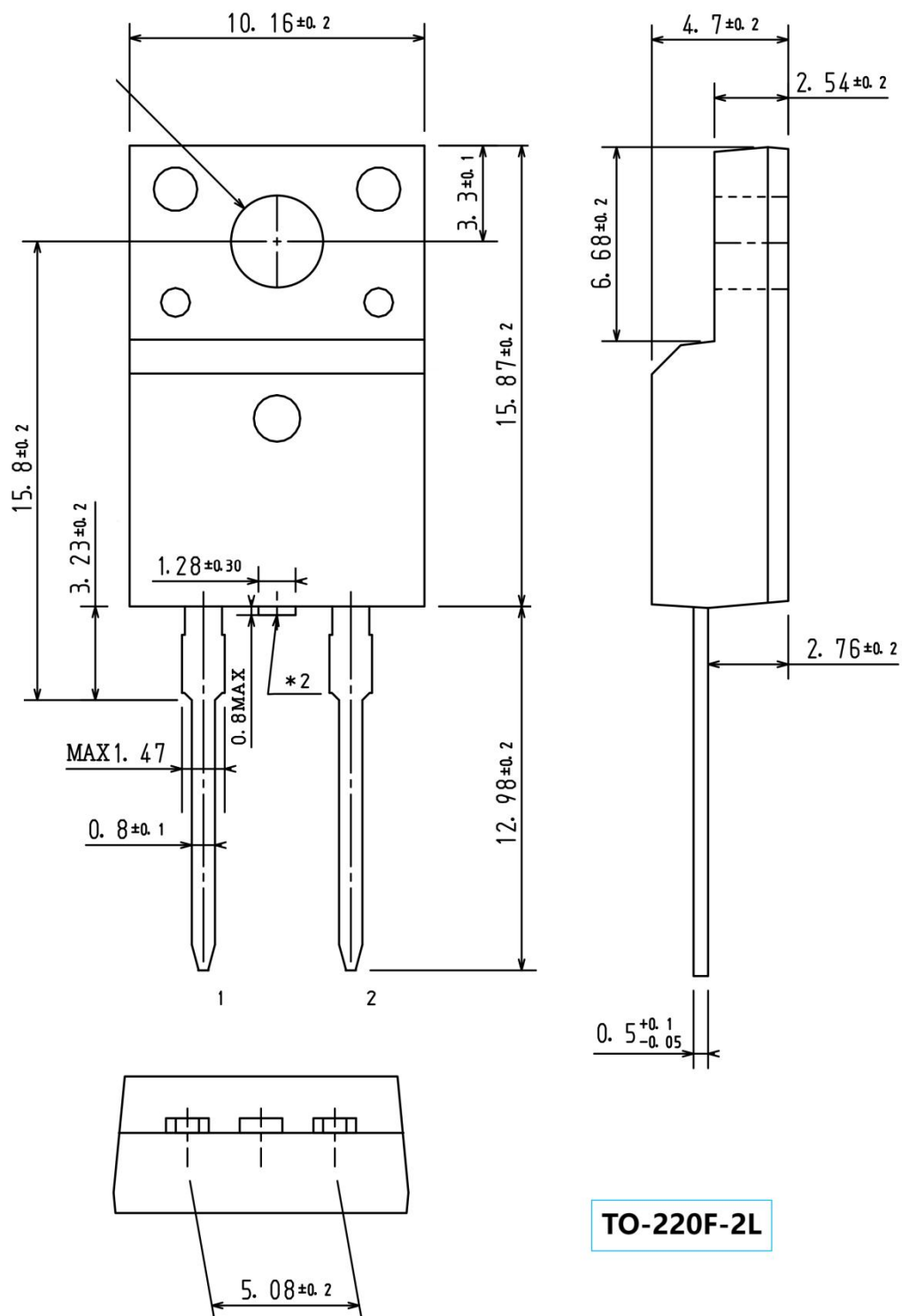


AVALANCHE CURRENT AND VOLTAGE WAVEFORMS

Package







TO-220F-2L