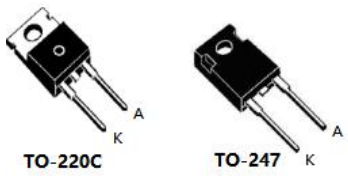
ESF8SS120S/C

Fast Recovery Diode

Features

- Repetitive Reverse Voltage : VRRM = 1200V
- Forward Voltage Drop : VF(typ.) = 3.2V
- Average Forward Current : IF(AV.) = 8A @ Tc = 100℃
- Fast Reverse Recovery Time : trr(typ.) = 70ns
- RoHS product

Package



ESF8SS120S **ESF8SS120C**

Applications

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

Absolute Maximum Ratings @ Tc=25℃

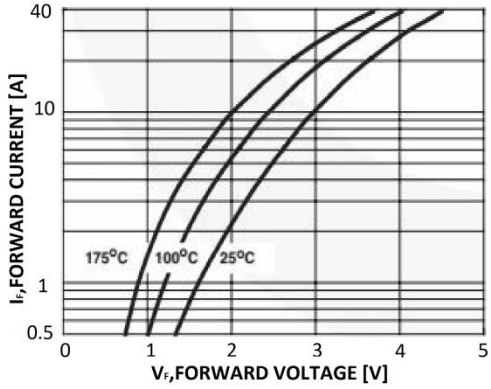
Symbol	Parameter	ratings	Unit
V_{RRM}	Repetitive peak reverse voltage @50μA	1200	V
V_{RWM}	Working Peak Reverse Voltage	1200	V
$I_{F(AV)}$	Average forward current @Tc=100℃	8	A
I_{FSM}	Peak one Cycle Surge Forward @t=10ms	270	A
T_j	Junction Temperature	-50~+150	℃
T_{STG}	Storage temperature range	-50~+151	℃

Electrical Specifications @ Tc=25℃

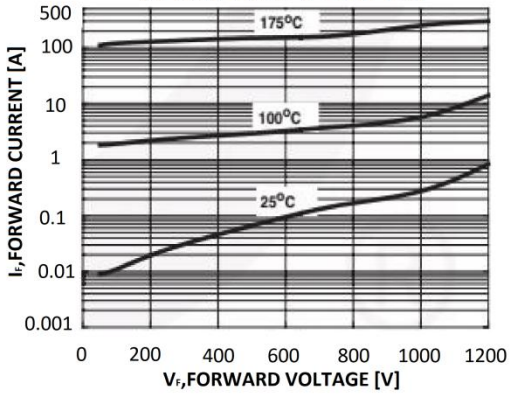
Symbol	Parameter		Ratings			Unit
			Min	Typ	Max	
I_R	T_j=25℃	$V_R=V_{RRM}$			100	μA
	T_j=125℃				500	μA
V_F	T_j=25℃	I_F=8A			3.2	V
	T_j=125℃				2.6	V
T_{rr}	I_F=1A, V_R=30V, di_F/dt=-200A/μs				55	ns
Rth(j-c)	Thermal resistance from junction to case	TO-247-2L			0.9	℃/W
Rth(j-c)		TO-220C-2L			2	℃/W

Typical Performance Curves

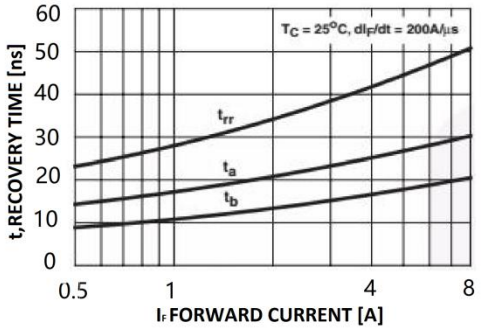
FORWARD CURRENT
vs FORWARD VOLTAGE



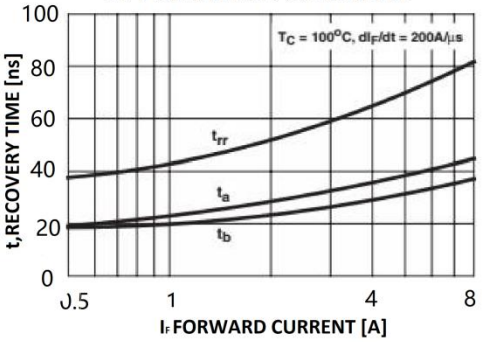
REVERSE CURRENT
vs REVERSE VOLTAGE



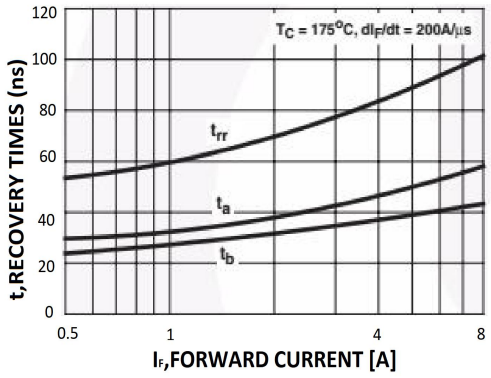
trr,ta AND tb CURVES
vs FORWARD CURRENT



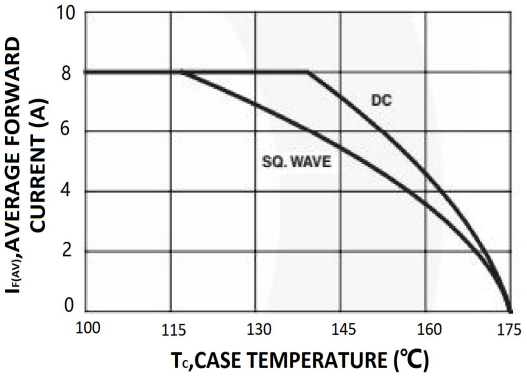
trr,ta AND tb CURVES
vs FORWARD CURRENT



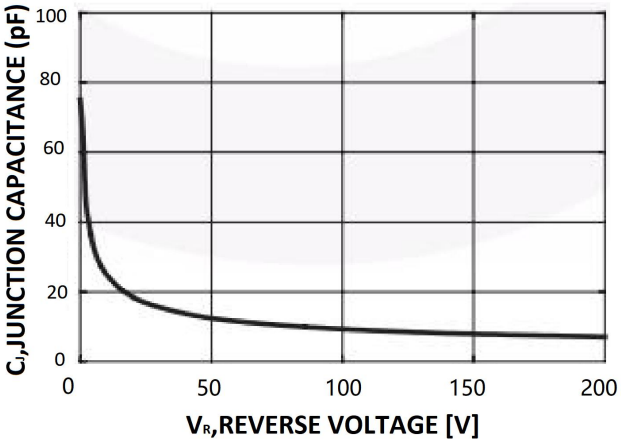
trr,ta and tb Curves
vs Forward Current



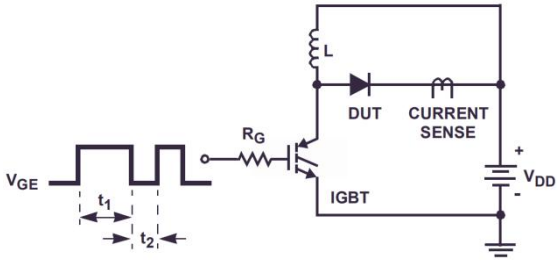
Current Derating Curve



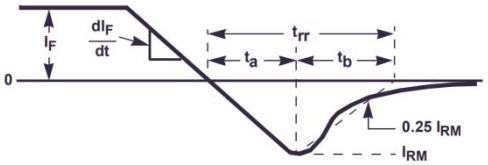
Junction Capacitance vs Reverse Voltage



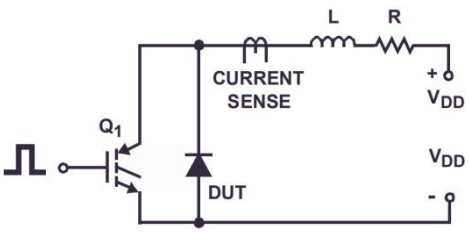
Test Circuits and Waveforms



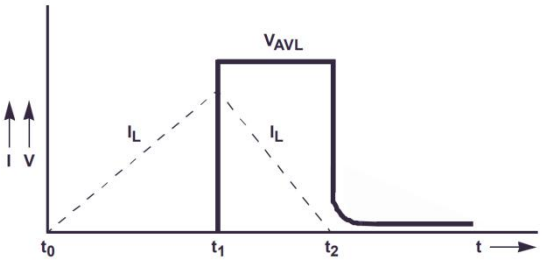
t_{rr} TEST CIRCUIT



t_{rr} WAVEFORMS AND DEFINITIONS

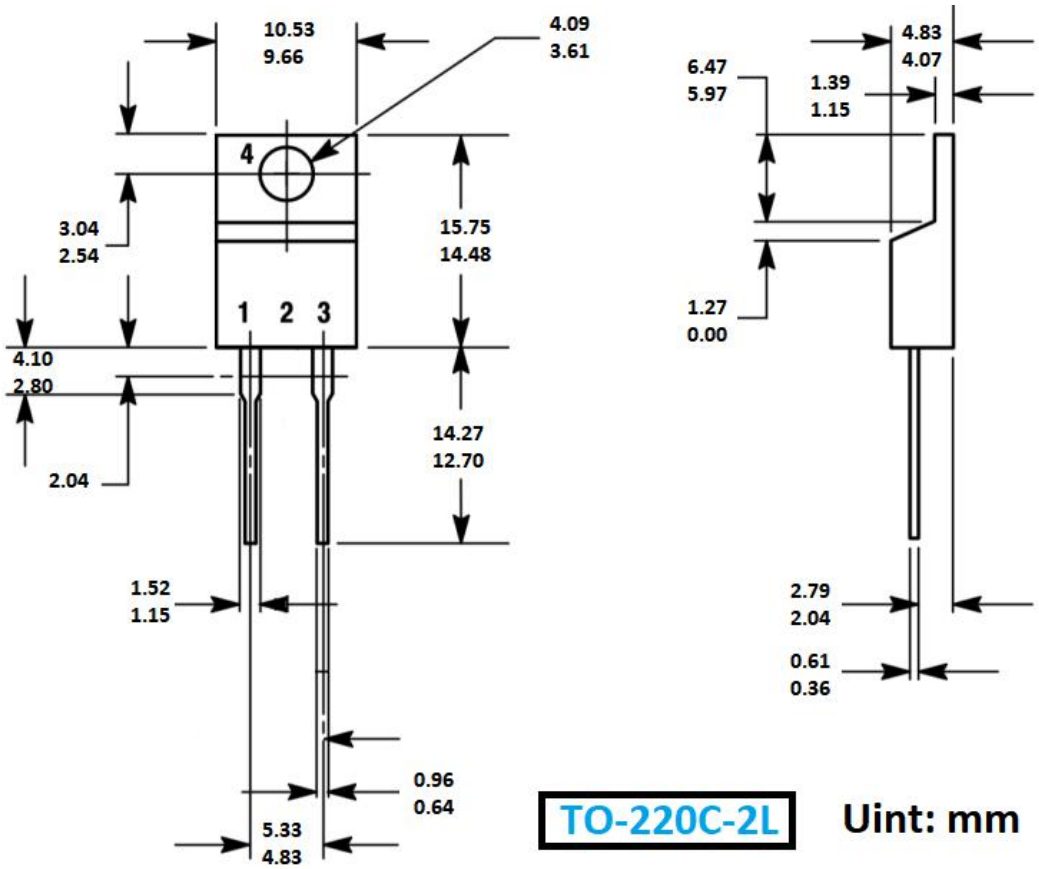


AVALANCHE ENERGY TEST CIRCUIT

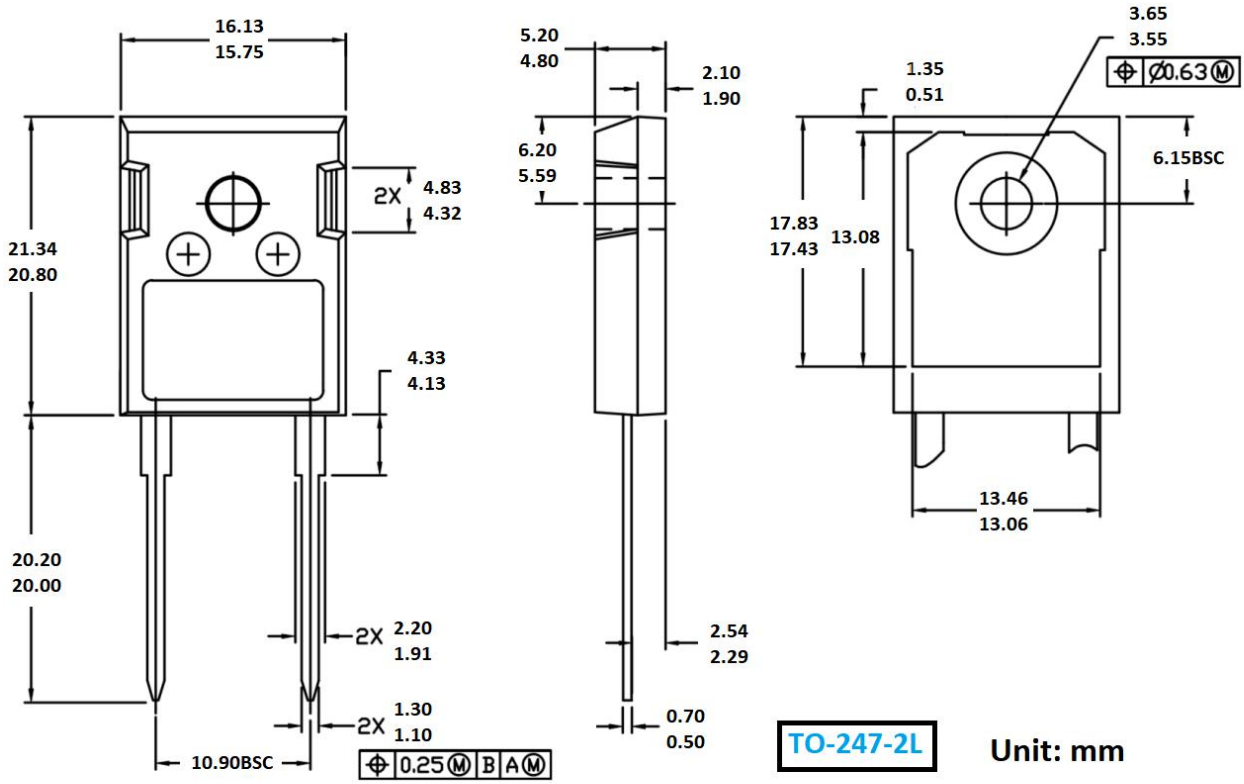


AVALANCHE CURRENT AND VOLTAGE WAVEFORMS

Package



TO-220C-2L Uint: mm



TO-247-2L

Unit: mm