

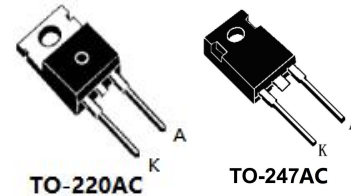
ESF30SS120C/U

Fast Recovery Diode

Features

- Repetitive Reverse Voltage : $V_{RRM} = 1200V$
- Forward Voltage Drop : $V_F(\text{typ.}) = 2.2V$
- Average Forward Current : $I_F(\text{AV.}) = 30A @ T_c = 100^\circ C$
- Fast Reverse Recovery Time : $t_{rr}(\text{typ.}) = 65ns$
- RoHS product

Package



ESF30SS120C ESF30SS120U

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	1200	V
V_{RWM}	Working Peak Reverse Voltage	1200	V
$I_{F(AV)}$	Average forward current @ $T_c=100^\circ C$	30	A
I_{FSM}	Peak one Cycle Surge Forward @ $t=10ms$	270	A
T_j	Junction Temperature	-50~+150	$^\circ C$
T_{STG}	Storage temperature range	-50~+150	$^\circ C$

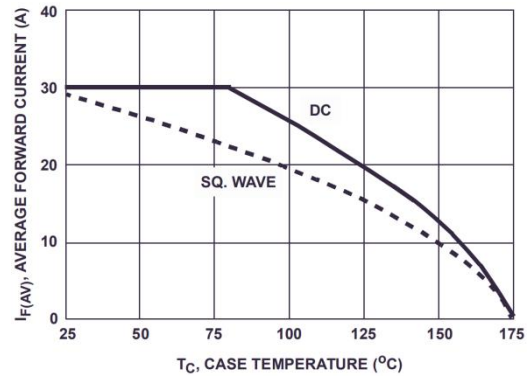
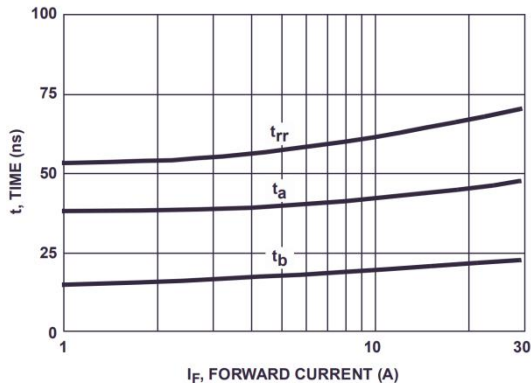
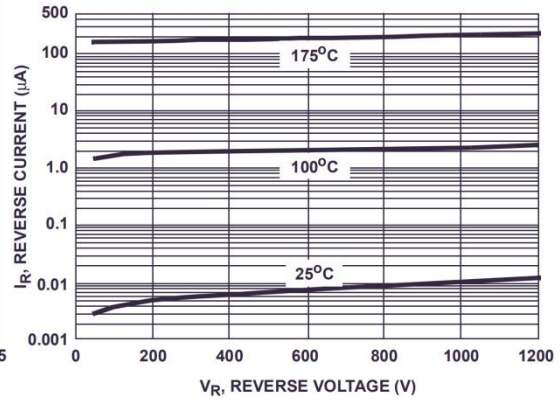
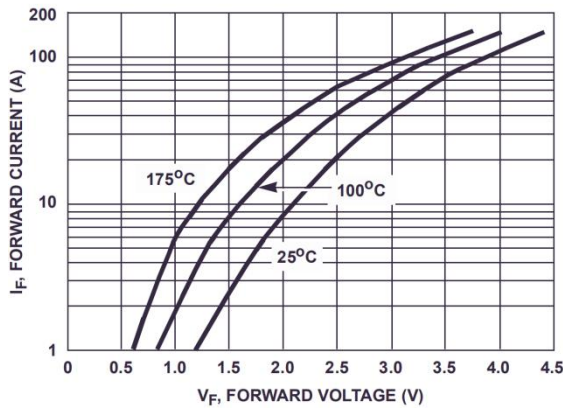
Electrical Specifications @ $T_c=25^\circ C$

Symbol	Parameter		Ratings			Unit
			Min	Typ	Max	
I_R	$T_j=25^\circ C$	$V_R=V_{RRM}$			100	μA
	$T_j=125^\circ C$				500	μA
V_F	$T_j=25^\circ C$	$I_F=30A$		2.2	3.2	V
	$T_j=125^\circ C$			1.9	2.8	V
T_{rr}	$I_F=1A, V_R=30V, diF/dt=-200A/\mu s$			45	70	ns
$R_{th(j-c)}$	Thermal resistance from junction to case	TO-247-2L			0.9	$^\circ C/W$
$R_{th(j-c)}$		TO-220C-2L			1.3	$^\circ C/W$

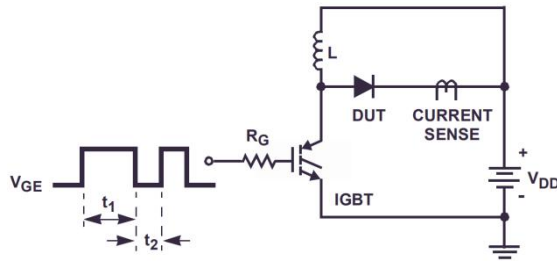
Order Information

Order codes	Silkscreen	Package	Packaging
ESF30SS120C	F30S120C	TO-220AC	
ESF30SS120U	F30S120U	TO-247AC	

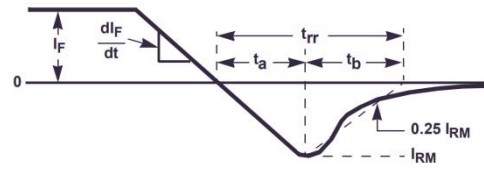
Typical Performance Curves



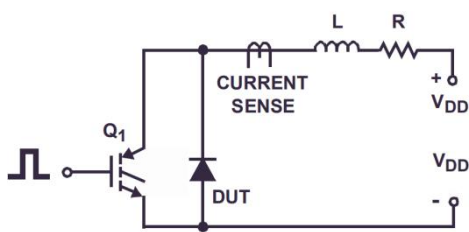
Test Circuits and Waveforms



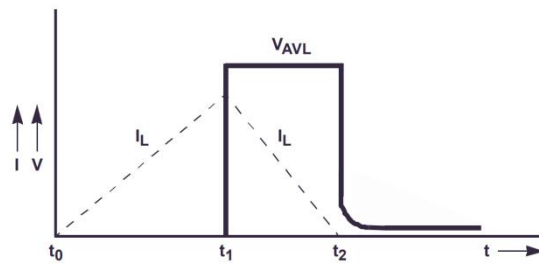
t_{rr} TEST CIRCUIT



t_{rr} WAVEFORMS AND DEFINITIONS



AVALANCHE ENERGY TEST CIRCUIT



AVALANCHE CURRENT AND VOLTAGE WAVEFORMS

Package

