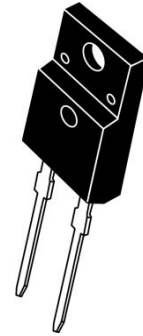


# ESF10D60US

## Fast Recovery Diode

### Features

- Repetitive Reverse Voltage :  $V_{RRM} = 600V$
- Forward Voltage Drop :  $V_F(\text{typ.}) = 1.35V$
- Average Forward Current :  $I_{F(AV.)} = 10A @ T_c = 100^\circ C$
- Fast Reverse Recovery Time :  $t_{rr}(\text{typ.}) = 45ns$
- RoHS product



### Applications

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



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

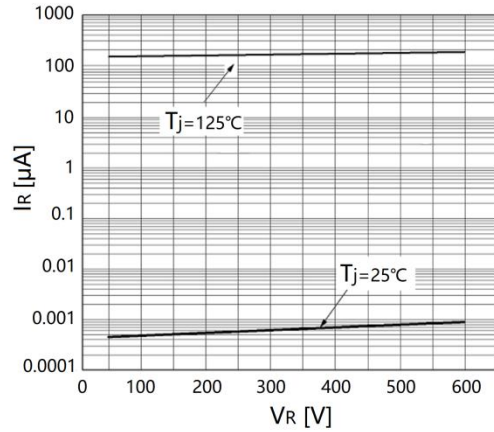
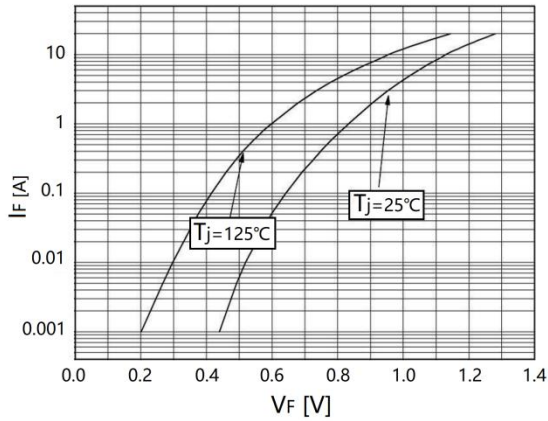
Symbol	Parameter	ratings	Unit
$V_{RRM}$	Repetitive peak reverse voltage @ $50\mu A$	600	V
$V_{RWM}$	Working Peak Reverse Voltage	600	V
$I_{F(AV)}$	Average forward current @ $T_c=100^\circ C$	10	A
$I_{FSM}$	Peak one Cycle Surge Forward @ $t=10ms$	100	A
$P_D$	Power Dissipation	75	W
$T_j$	Junction Temperature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

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

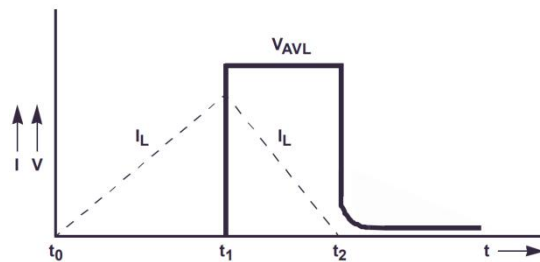
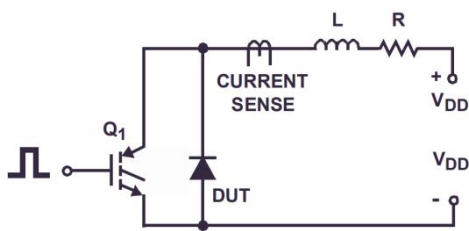
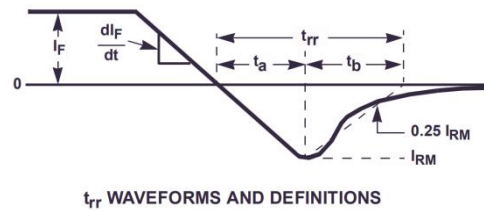
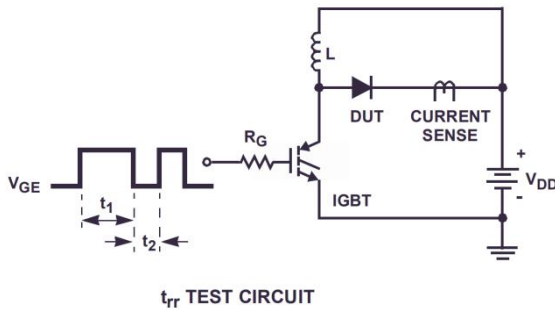
Symbol	Parameter		Ratings			Unit
			Min	Typ	Max	
$I_R$	$T_j=25^\circ C$	$V_R=V_{RRM}$			50	$\mu A$
	$T_j=125^\circ C$				200	$\mu A$
$V_F$	$T_j=25^\circ C$	$I_F=10A$		1.35	1.8	V
	$T_j=125^\circ C$			1.15	1.6	V
$T_{rr}$	$I_F=1A, V_R=300V, di_F/dt=-200A/\mu s$			35	45	ns
	$I_F=10A, V_R=300V, di_F/dt=-200A/\mu s$			45	85	ns
$R_{th(j-c)}$	Thermal resistance from	TO-220F			3.5	$^\circ C/W$

	junction to case			
--	------------------	--	--	--

### Typical Performance Curves



### Test Circuits and Waveform



AVALANCHE ENERGY TEST CIRCUIT

AVALANCHE CURRENT AND VOLTAGE WAVEFORMS

Package

