

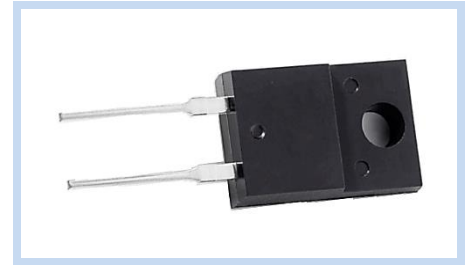
# Fast Recovery Rectifier 600V 8A ITO-220

FRED860T220FL

MERITEK

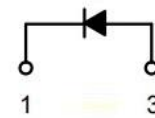
## FEATURES

- Optimized Performance Between VF & TR
- Soft Recovery Characteristic
- Reduced EMI and Improved Performance
- Improved Thermal Performance
- Application: Rectifiers in Switching Mode Power, UPS, PV Inverter, EV Charging Station, and Welder



## MECHANICAL DATA

- Case: ITO-220, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026



## MAXIMUM RATINGS

Parameter	Symbol	Value	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	600	V
Maximum DC Blocking Voltage	$V_{DC}$	600	
Average Forward Rectified Current at $T_L=115^\circ\text{C}$	$I_{F(AV)}$	8	A
Repetitive Peak Surge Current, 8.3ms, Sine-Wave, D=0.5	$I_{FRM}$	16	
Peak Forward Surge Current, 8.3ms Single Half-Sine-Wave Superimposed on Rated Load	$I_{FSM}$	85	
Maximum Power Dissipation	$P_{TOT}$	32	W
Maximum Thermal Resistance	$R_{\theta JC}$	3.9	$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55~+150	$^\circ\text{C}$

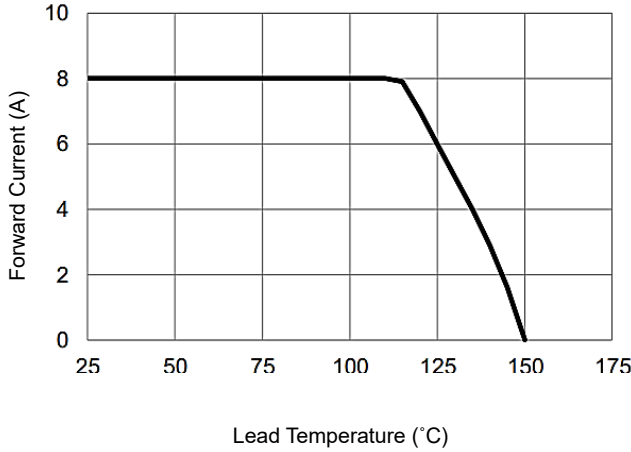
## ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Symbol	Min	Typ.	Max	Unit
Instantaneous Forward Voltage	$I_F=8\text{A}, T_J=25^\circ\text{C}$	$V_F$	--	1.8	2.3	V
	$I_F=8\text{A}, T_J=125^\circ\text{C}$		--	1.2	--	
Reverse Leakage Current	$V_R=600\text{V}, T_J=25^\circ\text{C}$	$I_R$	--	--	100	$\mu\text{A}$
	$V_R=600\text{V}, T_J=125^\circ\text{C}$		--	--	500	$\mu\text{A}$
Reverse Recovery Time	$I_F=0.5\text{A}, I_R=1\text{A}, I_{RR}=0.25\text{A}, T_J=25^\circ\text{C}$	$T_{RR}$	--	--	40	nS
	$I_F=1\text{A}, V_R=30\text{V}, di/dt=300\text{A}/\mu\text{s}, T_J=25^\circ\text{C}$		--	--	35	
Reverse Recovery Time		$T_{RR}$	--	60	90	nS
Peak Recovery Current	$I_F=8\text{A}, V_R=400\text{V}, di/dt=300\text{A}/\mu\text{s}, T_J=25^\circ\text{C}$	$I_{RRM}$	--	4.5	--	A
Reverse Recovery Charge		$Q_{RR}$	--	160	--	nC
Softness factor = $t_b/t_a$		$S$	--	1.7	--	--
Reverse Recovery Time	$I_F=8\text{A}, V_R=400\text{V}, di/dt=300\text{A}/\mu\text{s}, T_J=125^\circ\text{C}$	$T_{RR}$	--	85	--	nS
Peak Recovery Current		$I_{RRM}$	--	8	--	A
Reverse Recovery Charge		$Q_{RR}$	--	440	--	nC
Softness factor = $t_b/t_a$		$S$	--	1.05	--	--

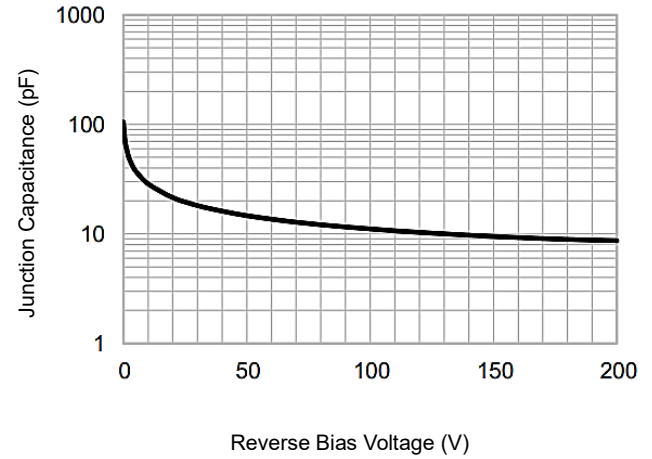
Notes:  $T_C=25^\circ\text{C}$  unless otherwise noted

**CHARACTERISTIC CURVES**

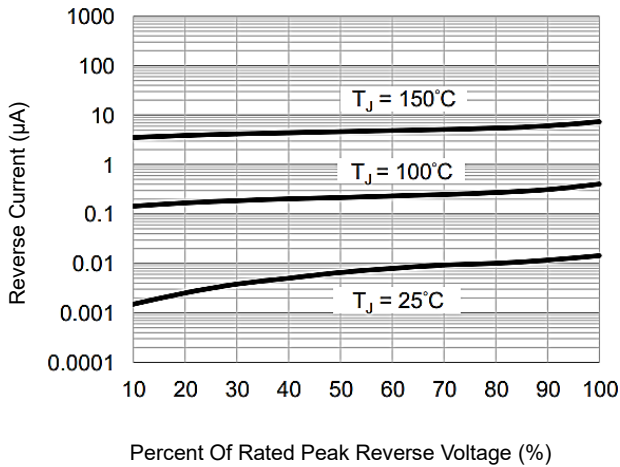
Forward Current Derating Curve



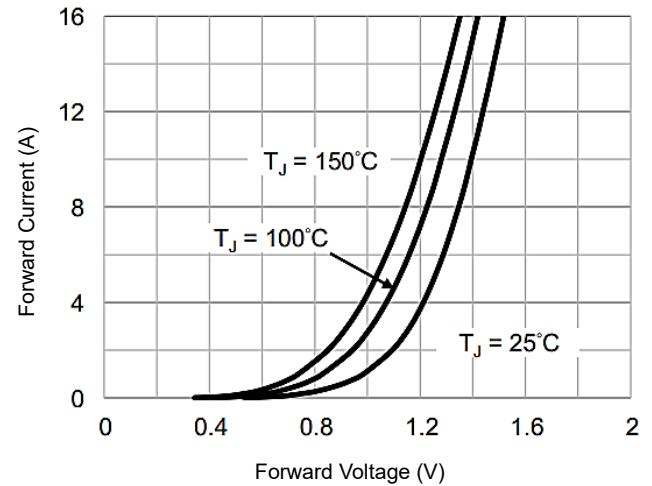
Typical Junction Capacitance



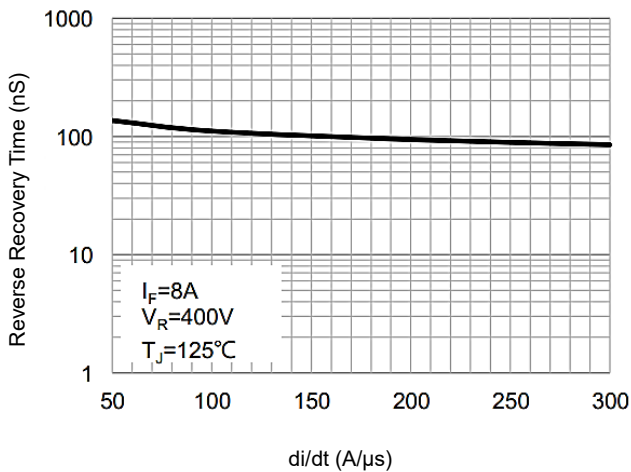
Typical Reverse Characteristics



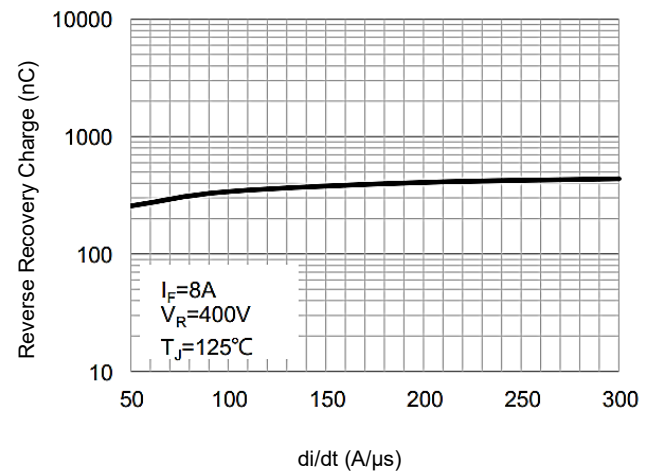
Typical Forward Characteristics



Typical Reverse Recovery Time



Typical Reverse Recovery Charge



# Fast Recovery Rectifier 600V 8A ITO-220

FRED860T220FL

MERITEK

## DIMENSIONS

Item	Min (mm)	Max (mm)
A	4.20	4.80
A1	2.90	3.30
A2	2.50	2.90
b	0.50	0.70
b2	1.00	1.40
c	0.57	0.67
D	14.80	15.40
E	9.7	10.30
e1	5.10 BSC	
H1	6.30	6.90
L	13.00	13.8
L1	3.50	4.50
P	3.00	3.40
Q	2.55	2.85

Notes: Pin 1: Cathode; Pin 3: Anode

