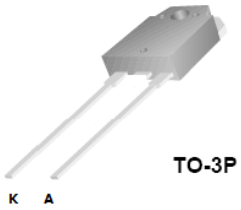
Ultrafast Soft Recovery Diode
30A 600V trr ~ 35 ns

Features

Ultrafast Recovery

175℃ operating junction temperature

Designed and qualified for industrial level



Benefits

Reduced RFI and EMI

Higher frequency operation

Reduced snubbing

Reduced part count

Description/Applications

These diodes are optimized to reduce losses and EMI/RFI in high frequency power conditioning system. The softness of the recovery eliminates the need for a snubber in most applications.

These devices are ideally suited for HF welding power converters and other applications where switching losses are not significant portion of the total losses.

Absolute Maximum Ratings T_C = 25 ℃ unless otherwise noted

Symbol	Parameter	Test Condition	Values	Units
V_R	Cathode – Anode voltage	--	600	V
$I_{F(AV)}$	Continuous forward current	T_C = 25 ℃	30	A
I_{FSM}	Single pulse forward current	T_C = 25 ℃	300	A
I_{FRM}	Maximum repetitive forward current	Square wave 20 kHz	60	A
T_J,T_{STG}	Operating and Storage Temperature Range	--	-55 to +175	℃

Thermal characteristics

Symbol	Parameter	Values	Units
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case	0.5	℃/W

Electrical Characteristics T_J = 25 ℃ unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
V_{BR}, V_R	Breakdown Voltage, Blocking Voltage	I_R = 100 uA	600	--	--	V
V_F	Forward voltage	I_F = 30 A, T_J = 25 ℃	--	1.35	1.6	V
		I_F = 30 A, T_J = 125 ℃	--	1.2	1.5	V
I_R	Reverse Leakage Current	V_R = V_R rated	--	--	1	uA
		V_R = V_R rated, T_J = 150 ℃	--	--	100	uA
trr	Reverse recovery time	I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A	--	35	45	ns
		I_F = 1A,V_R = 30V, di/dt =-200A/us	--	29		ns