

Ultrafast Soft Recovery Diode

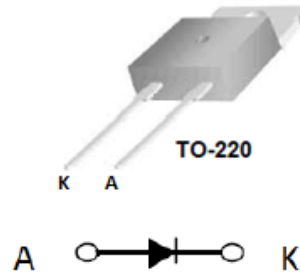
30A 600V trr ~ 38 ns

Features

Ultrafast Recovery
 175°C 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 °C 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 °C	30	A
I _{FSM}	Single pulse forward current	T _c = 25 °C	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	°C

Thermal characteristics

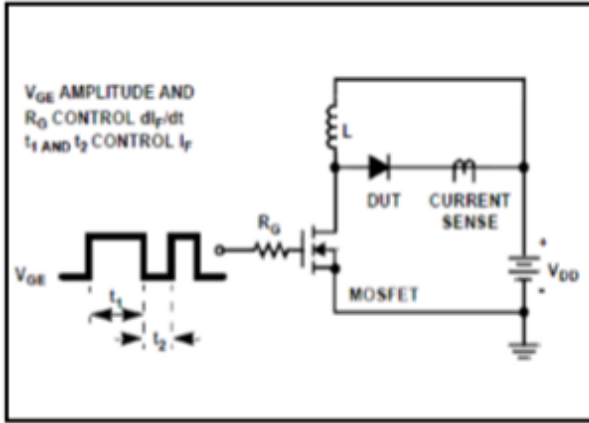
Symbol	Parameter	Values	Units
R _{θJC}	Thermal Resistance, Junction-to-Case	0.5	°C/W
R _{θJA}	Thermal Resistance, Junction-to-Ambient	60	°C/W

Electrical Characteristics T_J = 25 °C unless otherwise noted

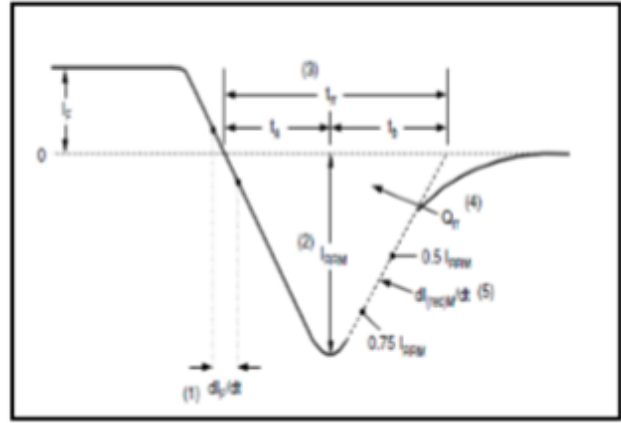
Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
V _{BR} , V _R	Breakdown Voltage, Blocking Voltage	I _R = 100 uA	600	--	--	V
V _F	Forward voltage	I _F = 30 A, T _J = 25 °C	--	1.35	1.65	V
		I _F = 30 A, T _J = 125 °C	--	1.2	1.5	V
I _R	Reverse Leakage Current	V _R = V _{R rated}	--	--	1	uA
		V _R = V _{R rated} , T _J = 150 °C	--	--	100	uA
trr	Reverse recovery time	I _F = 0.5A, I _R = 1A, I _{RR} = 0.25A	--	38	48	ns
		I _F = 1A, V _R = 30V, di/dt = -200A/us	--	30	--	ns

Trr Test Circuit

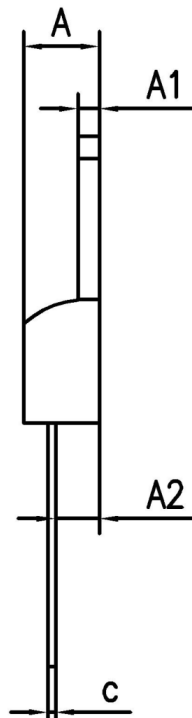
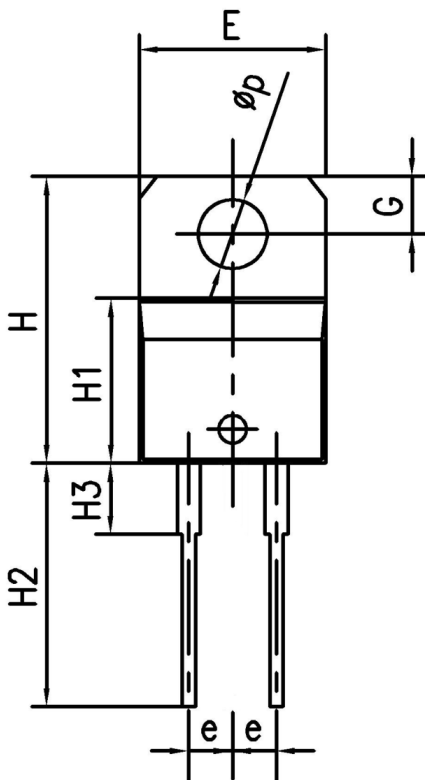
t_{rr} Test Circuit



t_{rr} Waveforms and Definitions



Package Information



	单位 mm		
	MIN	NOM	MAX
A	4.05	4.25	4.45
A1	1.15	1.25	1.35
A2	2.35	2.55	2.75
b	0.7	0.8	0.9
b1	1.22	1.32	1.42
c	0.4	0.45	0.5
e	2.34	2.54	2.74
E	9.95	10.15	10.35
H	15.3	15.5	15.7
H1	8.8	9	9.2
H2	13	13.5	14
H3	3.8	4	4.2
G	2.6	2.8	3
P	3.7	3.8	3.9

