International TOR Rectifier

15ETH06 15ETH06S 15ETH06-1

Hyperfast Rectifier

Features

- · Hyperfastfast Recovery Time
- Low Forward Voltage Drop
- · Low Leakage Current
- 175°C Operating Junction Temperature

 t_{rr} = 35ns $I_{F(AV)}$ = 15Amp V_R = 600V

Description/Applications

State of the art Hyperfast recovery rectifiers designed with optimized performance of forward voltage drop, Hyperfast recover time, and soft recovery.

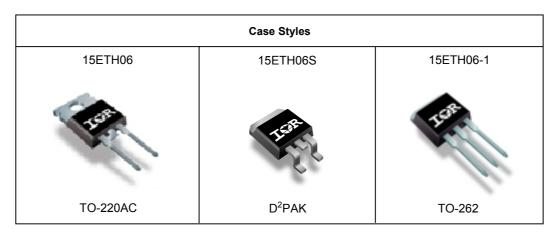
The planar structure and the platinum doped life time control guarantee the best overall performance, ruggedness and reliability characteristics.

These devices are intended for use in PFC Boost stage in the AC-DC section of SMPS, inverters or as freewheeling diodes.

The IR extremely optimized stored charge and low recovery current minimize the switching losses and reduce over dissipation in the switching element and snubbers.

Absolute Maximum Ratings

	Parameters	Max	Units
V _{RRM}	Peak Repetitive Peak Reverse Voltage	600	V
I _{F(AV)}	Average Rectified Forward Current	15	A
I _{FSM}	Non Repetitive Peak Surge Current	200	
I _{FM}	Peak Repetitive Forward Current	30	
T _J , T _{STG}	Operating Junction and Storage Temperatures	- 65 to 175	°C



Preliminary Data Sheet PD-20749 09/00

Electrical Characteristics @ T_J = 25°C (unless otherwise specified)

	Parameters	Min	Тур	Max	Units	Test Conditions
V_{BR}, V_{r}	Breakdown Voltage, Blocking Voltage	600	-	-	V	I _R = 100μA
V _F	Forward Voltage	-	-	2.1	٧	I _F = 15A, T _J = 25°C
		-	-	1.7	٧	I _F = 15A, T _J = 150°C
I _R	Reverse Leakage Current	-	-	100	μA	V _R = V _R Rated
		-	-	500	μA	$T_J = 150$ °C, $V_R = V_R$ Rated
C _T	Junction Capacitance	-	-	-	pF	V _R = 600V
L _S	Series Inductance	-	-	-	nH	Measured lead to lead 5mm from package body

Dynamic Recovery Characteristics @ T_J = 25°C (unless otherwise specified)

	Parameters	Min	Тур	Max	Units	Test Condition	ns
t _{rr}	Reverse Recovery Time	-	25	35	ns	$I_F = 1.0A$, $di_F/dt = 50A/\mu s$, $V_R = 30V$	
		-	27	40		$I_F = 15A$, $di_F/dt = 1$	100A/μs, V _R = 200V
		-	-	-		T _J = 25°C	I _F = 15A
			-	-		T _J = 125°C	V _R = 200V
I _{RRM}	Peak Recovery Current	-	1	-	Α	T _J = 25°C	di _F /dt = 100A/µs
		-	-	-		T _J = 125°C	
Q _{rr}	Reverse Recovery Charge	-	15	40	nC	T _J = 25°C	
		-	-	-		T _J = 125°C	

Thermal - Mechanical Characteristics

	Parameters	Min	Тур	Max	Units
TJ	Max. Junction Temperature Range	-	-	-65 to175	°C
T _{Stg}	Max. Storage Temperature Range	-	-	-65 to175	
R _{thJC}	Thermal Resistance, Junction to Case Per Leg	-	1.2	1.5	°C/W
R _{thJA} ①	Thermal Resistance, Junction to Ambient Per Leg	-	-	-	
R _{thCS} ^②	Thermal Resistance, Case to Heatsink	-	0.5	-	
Wt	Weight	-	2.0	-	g
		-	0.07	-	(oz)
	Mounting Torque	6.0	-	12	Kg-cm
		5.0	-	10	lbf.in

Typical Socket MountMounting Surface, Flat, Smooth and Greased