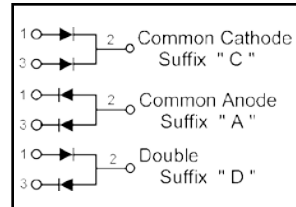
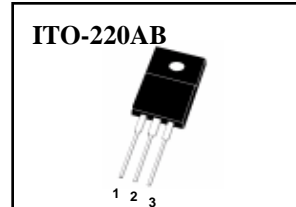


HDS10U30x Thru HDS10U60x

Switchmode Full Plastic Dual Ultrafast Power Rectifiers

...Designed for use in switching power supplies, inverters and as free wheeling diodes. These state-of-the-art devices have the following features:

300-600 VOLTS
10 AMPERES



FEATURES

- High Surge Capacity
- Low Power Loss, High efficiency
- Glass Passivated chip junctions
- 150°C Operating Junction Temperature
- Low Stored Charge Majority Carrier Conduction
- Low Forward Voltage , High Current Capability
- High-Switching Speed 50 & 75 Nanosecond Recovery Time
- Plastic Material used Carries Underwriters Laboratory

Maximum Ratings

Symbol	Parameter	Value				Units
		30	40	50	60	
V_{RRM}	Peak Repetitive Reverse Voltage	300	400	500	600	V
V_{RWM}	Working Peak Reverse Voltage					
V_R	DC Blocking Voltage					
$V_{R(RMS)}$	R.M.S Reverse Voltage	210	280	350	420	V
$I_{F(AV)}$	Average Rectifier Forward Current - Total Device (Rated V_R), $T_C=100^\circ C$	5.0				A
		10				A
I_{FM}	Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz, $T_C=125^\circ C$)	10				A
I_{FSM}	Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half wave, single phase, 60Hz)	100				A
T_J, T_{STG}	Operating and Storage Temperature Range	-65 to +150				°C

Electrical Characteristics

Symbol	Parameter	Value				Units
		30	40	50	60	
V_F	Maximum Instantaneous Forward Voltage - ($I_F=5.0$ Amp $T_C = 25^\circ C$) - ($I_F=5.0$ Amp $T_C = 100^\circ C$)	1.30		1.50		V
		1.16		1.38		
I_R	Maximum Instantaneous Reverse Current - (Rated DC Voltage, $T_C = 25^\circ C$) - (Rated DC Voltage, $T_C = 125^\circ C$)	5.0				uA
		200				
T_{rr}	Reverse Recovery Time ($I_F = 0.5$ A, $I_R = 1.0$, $I_{rr} = 0.25$ A)	50				ns
C_P	Typical Junction Capacitance (Reverse Voltage of 4 volts & $f=1$ MHz)	70		60		pF

Typical Characteristics

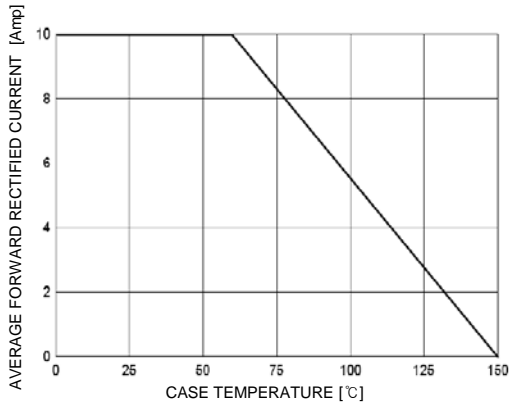


Figure 1. Forward Current Derating Curve

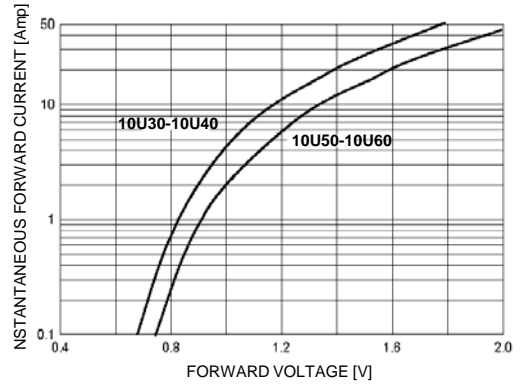


Figure 2. Typical Forward Characteristics

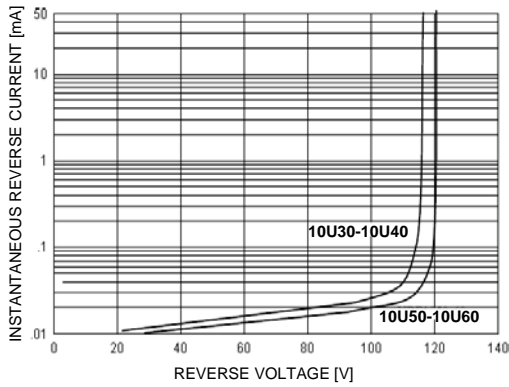


Figure 3. Typical Reverse Characteristics

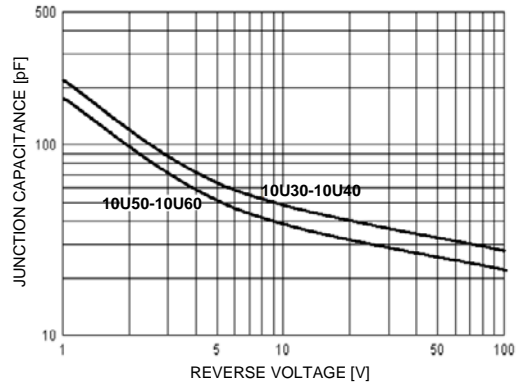


Figure 4. Typical Junction Capacitance

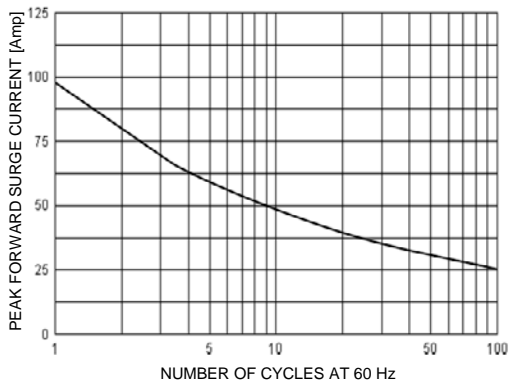


Figure 5. Peak Forward Surge Current

Typical Characteristics

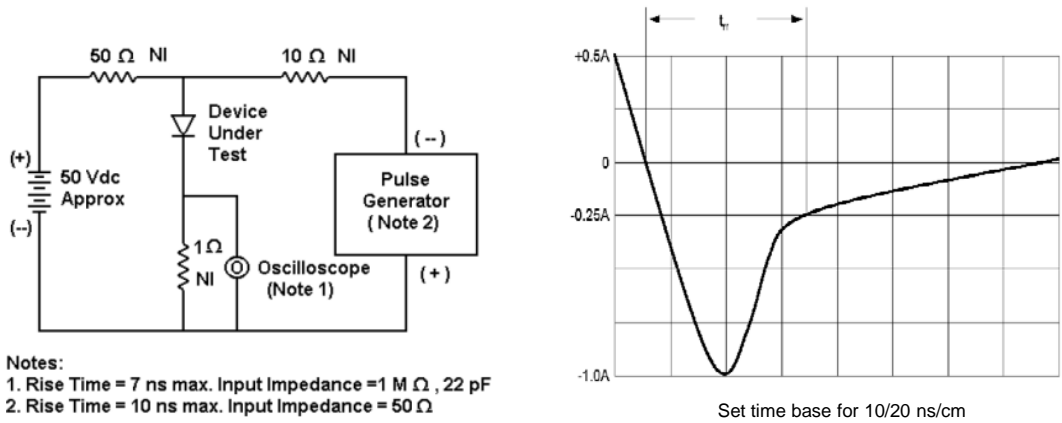
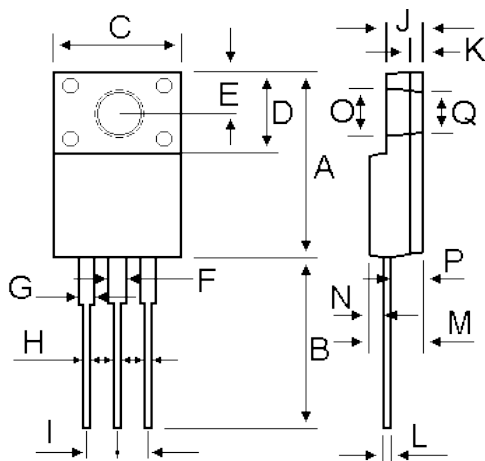


Figure 6. Reverse Recovery Time Characteristic and Test Circuit Diagram

Package Dimension

ITO-220AB



DIM	MILLIMETERS	
	MIN	MAX
A	15.05	15.15
B	13.35	13.45
C	10.00	10.10
D	6.55	6.65
E	2.65	2.75
F	1.55	1.65
G	1.15	1.25
H	0.55	0.65
I	2.50	2.60
J	3.00	3.20
K	1.10	1.20
L	0.55	0.65
M	4.40	4.60
N	1.15	1.25
P	2.65	2.75
O	3.35	3.45
Q	3.15	3.25