SENSITRON

SEMICONDUCTOR

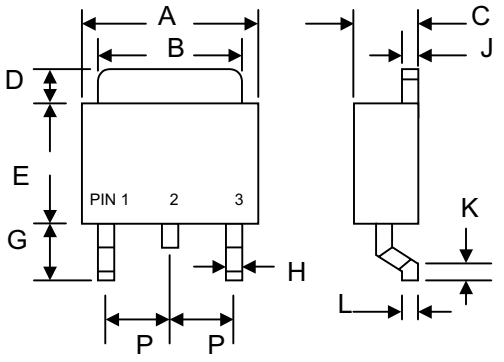
ED302YS-ED306YS

3.0A DPAK SURFACE MOUNT SUPER FAST RECTIFIER

Data Sheet 2604 Rev.—

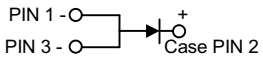
Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Profile Package
- High Surge Current Capability
- Low Power Loss, High Efficiency
- Super-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band
- Weight: 0.4 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Standard Packaging: 16mm Tape (EIA-481)



D PAK/TO-252AA		
Dim	**Min**	**Max**
A	0.252(6.40)	0.268(6.80)
B	0.197(5.00)	0.213(5.40)
C	0.093(2.35)	0.108(2.75)
D	—	0.063(1.60)
E	0.209(5.30)	0.224(5.70)
G	0.091(2.30)	0.106(2.70)
H	0.016(0.40)	0.031(0.80)
J	0.016(0.40)	0.024(0.60)
K	0.012(0.30)	0.028(0.70)
L	0.020(0.50) Typical	
P	—	0.091(2.30)
All Dimensions in inch(mm)		

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	ED302YS	ED303YS	ED304YS	ED306YS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	300	400	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	210	280	420	V
Average Rectified Output Current @T_L = 75°C	I_O	3.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	75				A
Forward Voltage (Note 1) @I_F = 3.0A	V_{FM}	0.95	1.25		1.7	V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 100°C	I_{RM}	5.0 200				μA
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	80				K/W
Reverse Recovery Time (Note 2)	t_{rr}	35				**nS**
Operating and Storage Temperature Range	T_j, T_{STG}	-50 to +150				°C

Note: 1. Mounted on P.C. Board with 14mm^2 (0.13mm thick) copper pad.
2. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A.

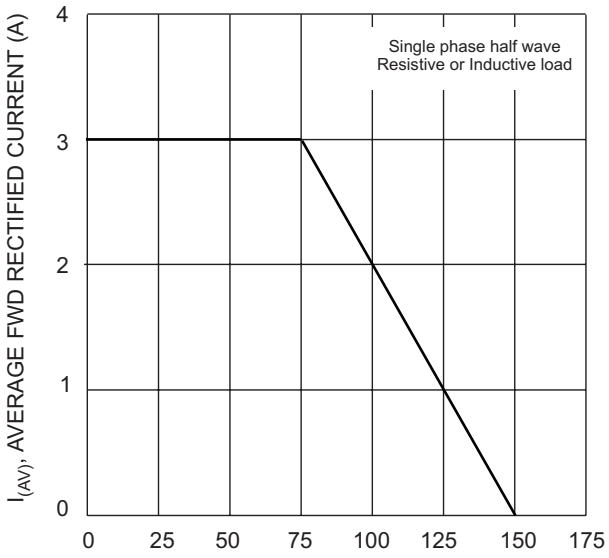


Fig. 1 Forward Current Derating Curve

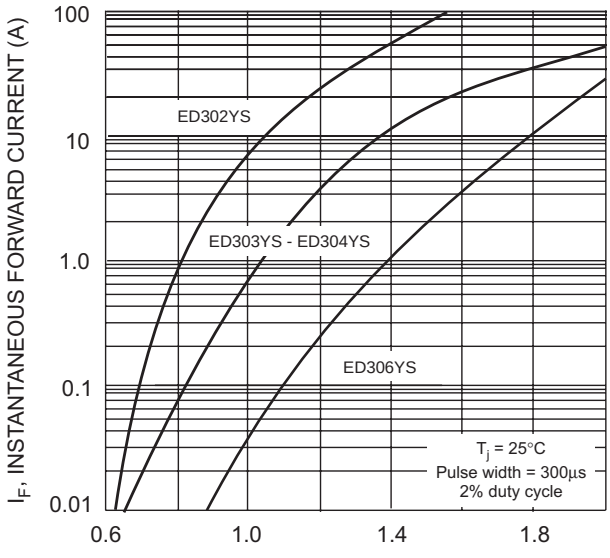


Fig. 2 Typical Forward Characteristics

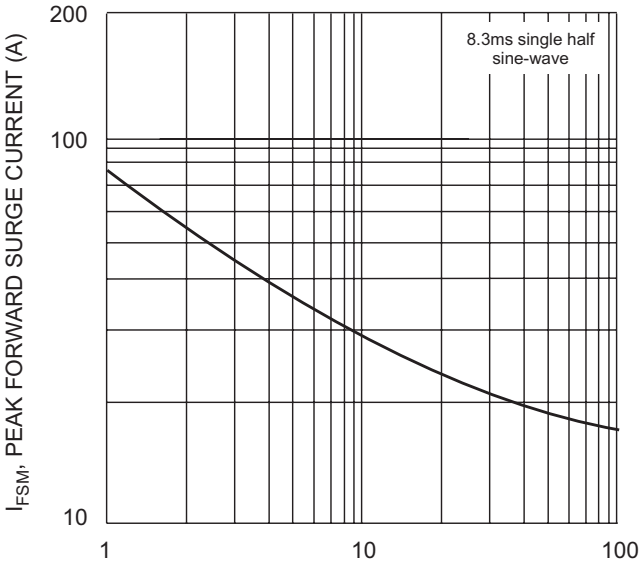


Fig. 3 Peak Forward Surge Current

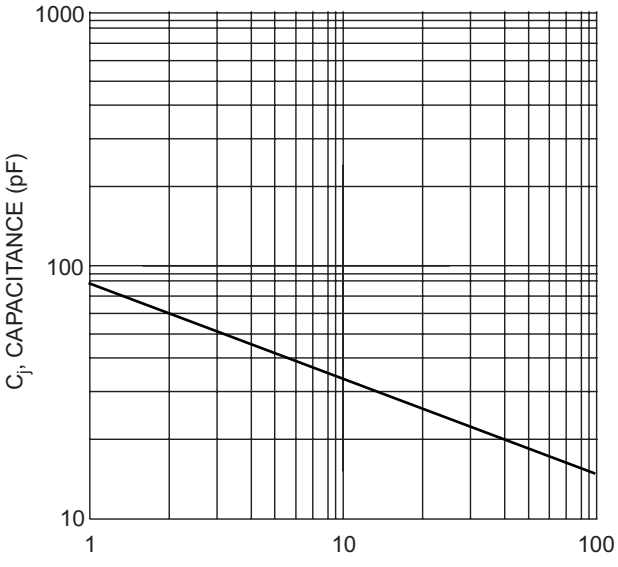
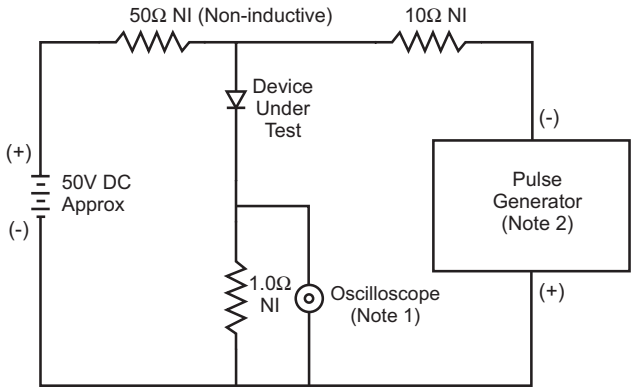
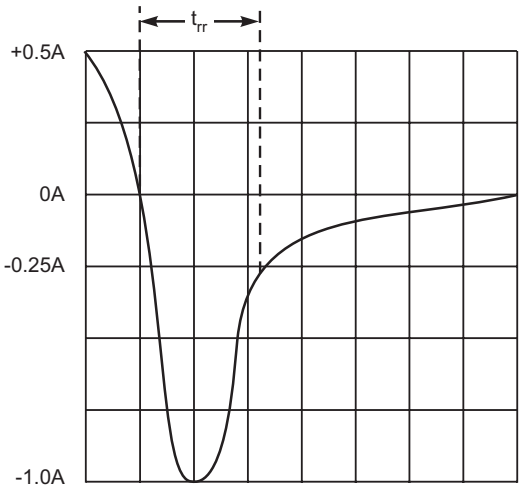


Fig. 4 Typical Junction Capacitance



Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit