



# BY127, BY133, EM513, EM516, EM518

High Voltage Glass Passivated Junction Rectifiers  
Reverse Voltage 1250 to 2000 Volts Forward Current 1.0 Ampere

## Features

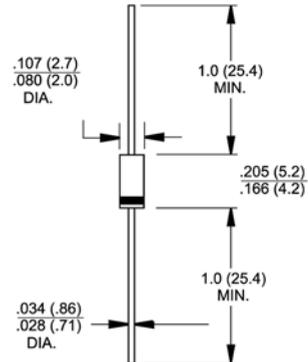
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability
- ◆ Repetitive peak reverse voltage: 1250-2000V
- ◆ Plastic material has UL classification 94V-0



DO-204AL (DO-41)

## Mechanical Data

- ◆ Plastic case: DO-204AL (DO-41)
- ◆ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◆ Polarity: Color band denotes cathode end
- ◆ High temperature soldering guaranteed: 250°C/10 seconds .375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ◆ Weight: 0.012 ounce, 0.33 gram



## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

Dimensions in inches and (millimeters)

Parameter	Symbols	BY127	BY133	EM513	EM516	EM518	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	1250	1300	1600	1800	2000	Volts
Maximum RMS voltage	$V_{RMS}$	875	910	1120	1260	1400	Volts
Maximum DC blocking voltage	$V_{DC}$	1250	1300	1600	1800	2000	Volts
Max. average forward rectified current, R-load $T_A=75^\circ\text{C}$ <sup>1)</sup>	$I_{F(AV)}$	1.0					Amp
Max. average forward rectified current, R-load $T_A=100^\circ\text{C}$ <sup>1)</sup>	$I_{F(AV)}$	0.75					Amp
Repetitive peak forward current <sup>1)</sup> (f>15Hz)	$I_{FRM}$	10					Amps
Peak forward surge current, 50 Hz half sine-wave at $T_A=25^\circ\text{C}$	$I_{FSM}$	50.0					Amps
Rating for fusing, t<10 ms $T_A=25^\circ\text{C}$	$i^2t$	12.5					A <sup>2</sup> s
Maximum forward voltage at 1.0A $T_J=25^\circ\text{C}$	$V_F$	1.1					Volts
Leakage current $T_J=25^\circ\text{C}$ $V_R=V_{RRM}$ $T_J=100^\circ\text{C}$ $V_R=V_{RRM}$	$I_R$	5 200					$\mu\text{A}$
Thermal resistance junction to ambient air	$R_{\theta JA}$	45.0					K/W <sup>1)</sup>
Operating junction temperature	$T_J$	-50 to +150					°C
Storage temperature range	$T_{STG}$	-50 to +150					°C

Notes: 1. Valid, if leads are kept at ambient temperature at a distance of 10 mm from case

## RATINGS AND CHARACTERISTIC CURVES

