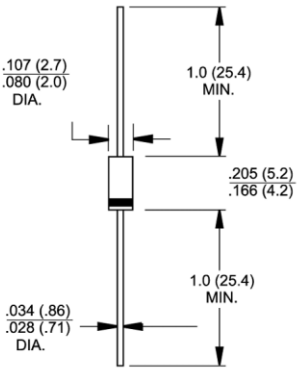
BY127, BY133, EM513, EM516, EM518

1.0 Amp. General Purpose Plastic Rectifiers
Voltage Range 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)



Dimensions in inches and (millimeters)

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

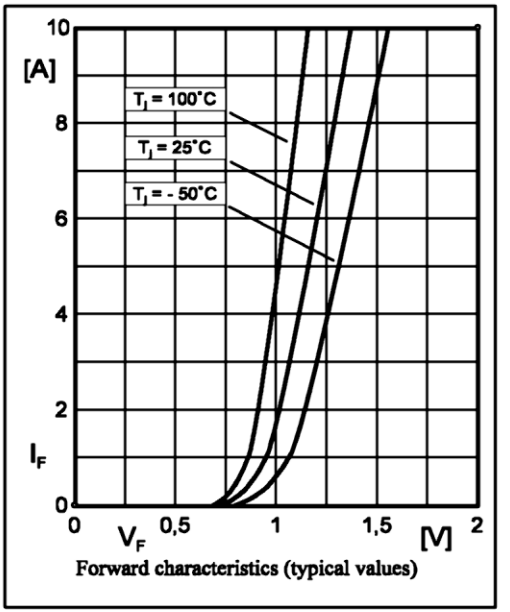
Maximum Ratings and Electrical Characteristics

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%

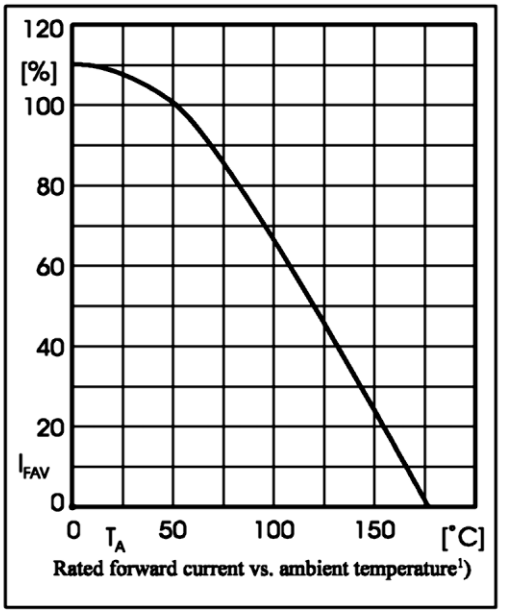
Parameter	Symbols	BY127	BY133	EM513	EM516	EM518	Units
Maximum repetitive peak reverse voltage	V_{RRM}	1250	1300	1600	1800	2000	Volts
Maximum RMS voltage	V_{RMS}	875	910	1120	1260	1400	Volts
Maximum DC blocking voltage	V_{DC}	1250	1300	1600	1800	2000	Volts
Max. average forward rectified current, R-load T_A=75°C [1]	$I_{F(AV)}$	1.0					Amp
Max. average forward rectified current, R-load T_A=100°C [1]	$I_{F(AV)}$	0.75					Amp
Repetitive peak forward current [1] (f>15Hz)	I_{FRM}	10					Amps
Peak forward surge current, 50 Hz half sine-wave at T_A=25°C	I_{FSM}	50.0					Amps
Rating for fusing, t<10 ms T_A=25°C	i^2t	12.5					A^2s
Maximum forward voltage at 1.0A T_J=25°C	V_F	1.1					Volts
Leakage current T_J=25°C V_R=V_{RRM} T_J=100°C V_R=V_{RRM}	I_R	5 200					uA
Thermal resistance junction to ambient air	$R_{\theta JA}$	45.0					K/W [1]
Operating junction temperature	T_J	-50 to +175					°C
Storage temperature range	T_{STG}	-50 to +175					°C

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

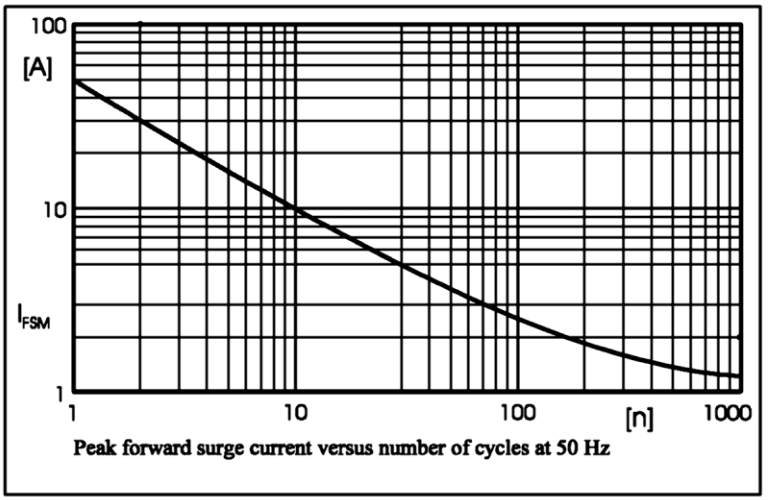
RATINGS AND CHARACTERISTIC CURVES



Forward characteristics (typical values)



Rated forward current vs. ambient temperature[1])



Peak forward surge current versus number of cycles at 50 Hz