

# DLE30B-DLE30E

Super Fast Rectifiers

**VOLTAGE RANGE: 100 --- 400 V**

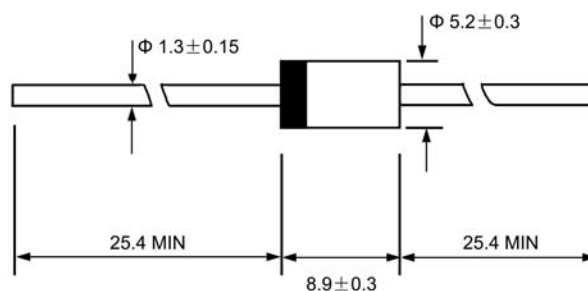
**CURRENT: 3.0 A**

**DO - 27**



## Features

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0



Dimensions in millimeters

## Mechanical Data

- ◇ Case: JEDEC DO-27, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

		DLE30B	DLE30C	DLE30E	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	100	200	400	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	V
Maximum DC blocking voltage	$V_{DC}$	100	200	400	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	3.0			A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	150			A
Maximum instantaneous forward voltage @ 3.0 A	$V_F$	0.98		1.3	V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$		10.0 100.0		$\mu\text{A}$
Maximum reverse recovery time (Note1)	$t_{rr}$		35		ns
Typical junction capacitance (Note2)	$C_J$		32		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$		22		$^\circ\text{C/W}$
Operating junction temperature range	$T_J$		-55-----+150		$^\circ\text{C}$
Storage temperature range	$T_{STG}$		-55-----+150		$^\circ\text{C}$

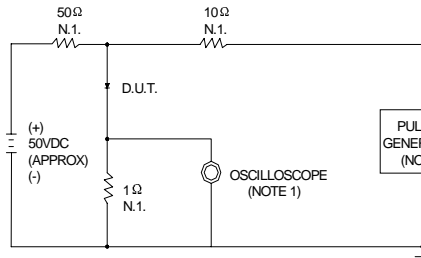
NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

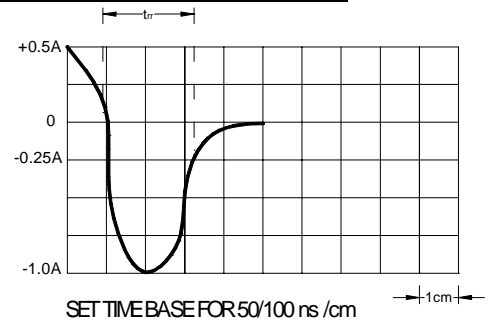
3. Thermal resistance from junction to ambient.

### Ratings AND Characteristic Curves

**FIG.1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

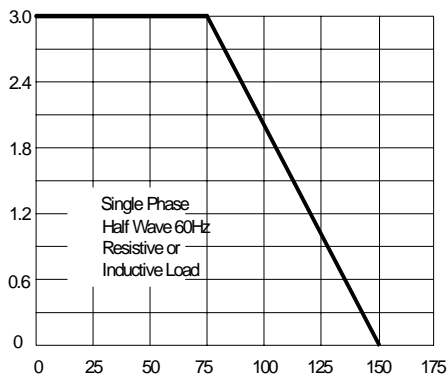


NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ, 22PF  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50Ω



**FIG.2 – FORWARD DERATING CURRENT**

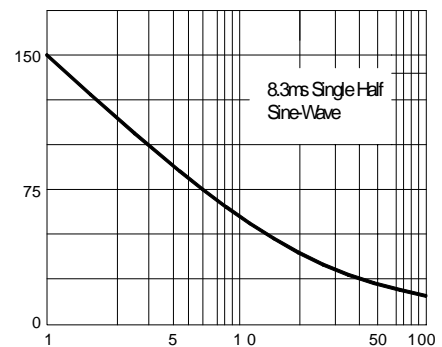
AVERAGE FORWARD RECTIFIED CURRENT  
AMPERES



AMBIENT TEMPERATURE, °C

**FIG.3 – PEAK FORWARD SURGE CURRENT**

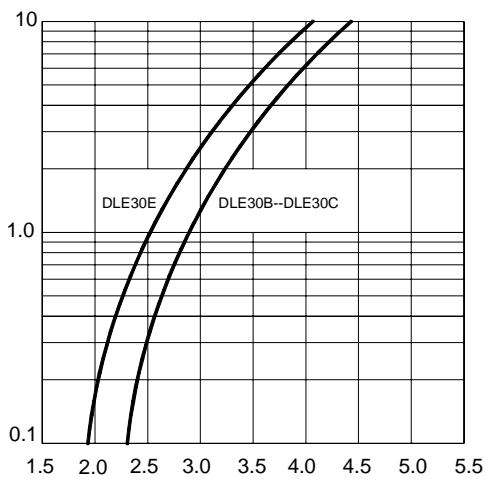
PEAK FORWARD SURGE CURRENT  
AMPERES



NUMBER OF CYCLES AT 60 Hz

**FIG.4 – TYPICAL FORWARD CHARACTERISTIC**

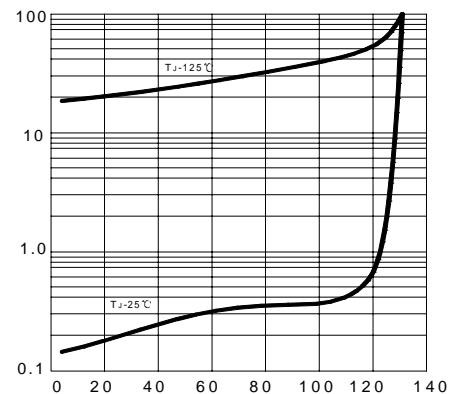
INSTANTANEOUS FORWARD CURRENT  
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

**FIG.5 – TYPICAL REVERSE CHARACTERISTICS**

REVERSE CURRENT, MICROAMPERES



PERCENT OF RATED REVERSE VOLTAGE, %