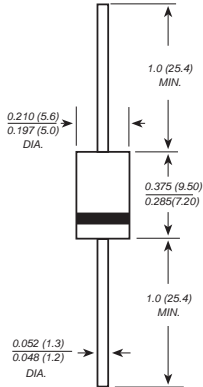


# ST540L THRU ST5100L

## TRENCH SCHOTTKY RECTIFIER

Reverse Voltage - 40 to 100 Volts Forward Current - 5.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-201AD molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.04 ounce, 1.10 grams

### 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 current derate by 20%.

	SYMBOLS	ST540L	ST560L	ST5100L	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	40	60	100	V
Maximum RMS voltage	$V_{RMS}$	28	42	70	V
Maximum DC blocking voltage	$V_{DC}$	40	60	100	V
Maximum average forward rectified current 0.375" (9.5mm) lead length (see fig. 1)	$I_{(AV)}$	5.0			A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100.0	60.0	90.0	A
Maximum instantaneous forward voltage at 5.0A	$V_F$	0.43	0.50	0.60	V
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	0.1	0.05	0.03	mA
		20.0		10.0	
Typical junction capacitance (NOTE 1)	$C_J$	500	400		pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	25.0			°C/W
Operating junction temperature range	$T_J$	-55 to +125		-55 to +150	°C
Storage temperature range	$T_{STG}$	-55 to +150			°C

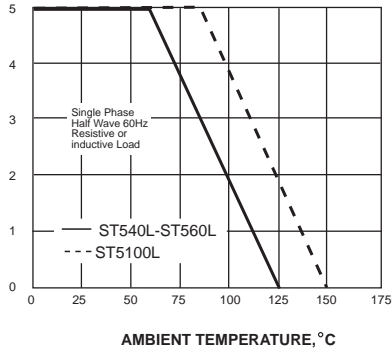
**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES SB520 THRU SB5200

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



— ST540L-ST560L  
- - - ST5100L

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT,  
AMPERES

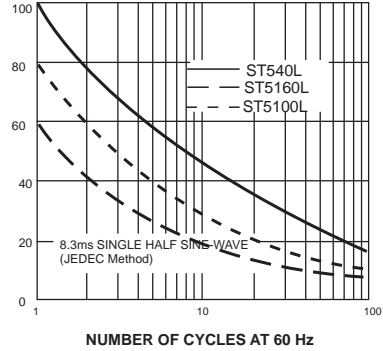


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

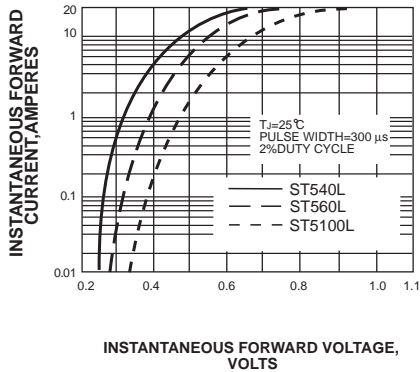


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT,  
MILLIAMPERES

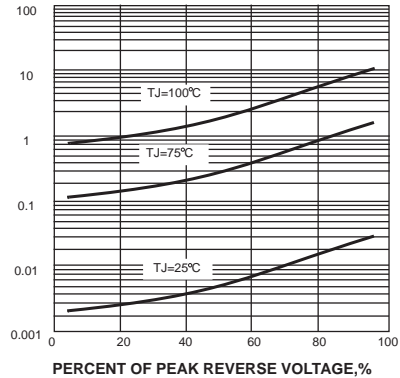


FIG. 5-TYPICAL JUNCTION CAPACITANCE

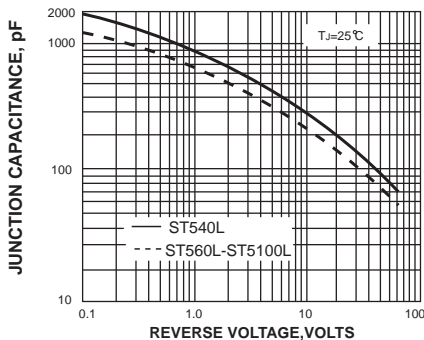


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

TRANSIENT THERMAL IMPEDANCE,  
 $^\circ\text{C}/\text{W}$

