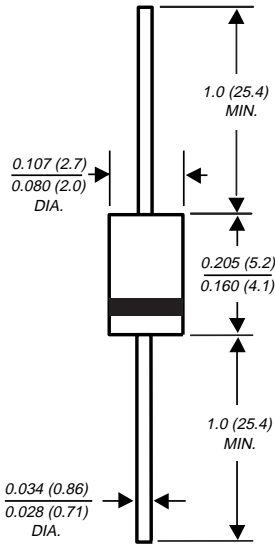


# P4KE530 AND P4KE550

**TRANSZORB™ TRANSIENT VOLTAGE SUPPRESSOR**  
*Steady State Power - 1Watt    Reverse Voltage - 530, 550 Volts*

**DO-204AL**



Dimensions are in inches and (millimeters)

**Available in uni-directional only**

## FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Protects TOPSwitch®
- ◆ Glass Passivated Junction
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Excellent Clamping capability
- ◆ Available in unidirectional only



## MECHANICAL DATA

**Case:** JEDEC DO-204AL molded plastic body over passivated junction

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

**Polarity:** The color band denotes the cathode, which is positive with respect to the anode under normal TVS operation

**Mounting Position:** Any

**Weight:** 0.012 ounce, 0.3 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	P4KE530	P4KE550	UNITS
Steady state power dissipation (NOTE 3)	P <sub>M(AV)</sub>	1.0		Watts
Peak pulse power dissipation (NOTE 1,2, FIG.1)	P <sub>PPM</sub>	Minimum 300		Watts
Minimum breakdown voltage at 100µA	V <sub>(BR)</sub>	530	550	Volts
Maximum clamping voltage at 300mA, 10/1000 µs-waveform	V <sub>c</sub>	660		Volts
Stand-off voltage	V <sub>WM</sub>	477	495	Volts
Maximum DC reverse leakage current at V <sub>WM</sub>	I <sub>D</sub>	5.0		µA
Typical temperature coefficient of V <sub>(BR)</sub>		650		mV°C
Typical capacitance (NOTE 4)	C <sub>J</sub>	75	45	pF
		at 0V		
		at 200V		
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150		°C

**NOTES:**

- (1) Non-repetitive current pulse, per Fig.3 and derated above 25°C per - Fig. 2
- (2) Peak pulse power waveform is 10/100µS
- (3) Lead temperature at 75°C=T<sub>L</sub>
- (4) Measured at 1MHz

# MAXIMUM RATINGS AND CHARACTERISTIC CURVES P4KE530 AND P4KE550

FIG. 1 - PEAK PULSE POWER RATING CURVE

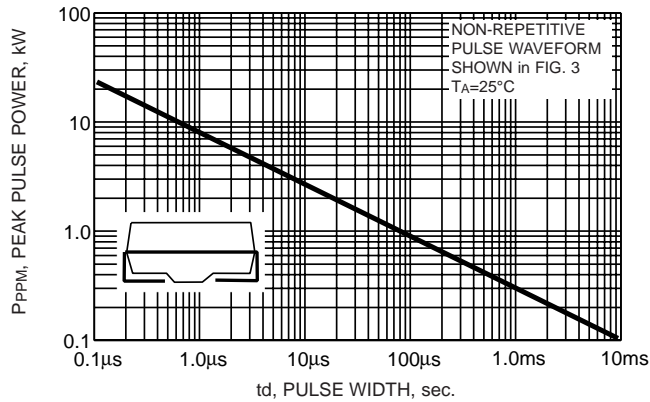


FIG. 2 - PULSE DERATING CURVE

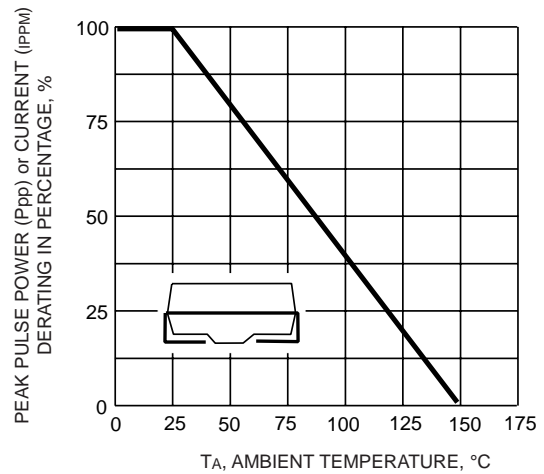
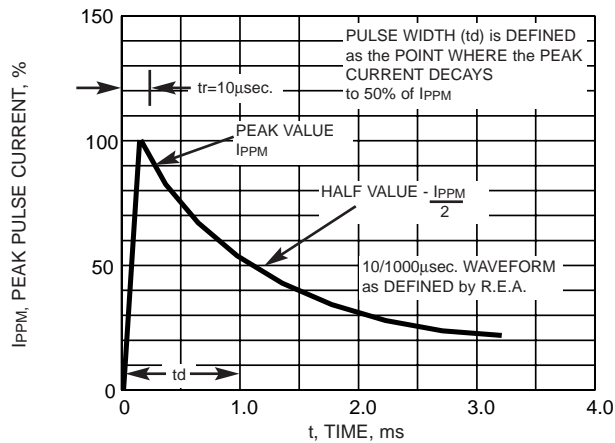


FIG. 3 - PULSE WAVEFORM



## APPLICATION NOTES

- ♦ Respect Thermal Resistance (PCB Layout) - as the temperature coefficient also contributes to the clamping voltage.
- ♦ Select minimum breakdown voltage, so you get acceptable power dissipation and PCB tie point temperature. Devices with higher breakdown voltage will have a shorter conduction time and will dissipate less power.
- ♦ Clamping voltage is influenced by internal resistance - design approximation is 7V per 100mA slope.
- ♦ Keep temperature of TVS lower than TOPSwitch<sup>®</sup> as a recommendation.
- ♦ Maximum current is determined by the maximum  $T_J$  and can be higher than 300mA. Contact supplier for different clamping voltage / current arrangements.
- ♦ Minimum breakdown voltage can be customized for other applications. Contact supplier.