

MATERIAL:

FINISH:

REVISIONS:  
1. CHG TO BY255P DIODE  
MJM 11/5/10

**CKE**

LUCERNEMINES, PA 15754  
(724) 479-3533

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TOLERANCE UNLESS NOTED:

DECIMAL  $\pm 0.010$

FRACTIONAL  $\pm 1/64$

SCALE: 2 = 1

DRAWN: DATE:

JKH 8/31/09

APPROVED: DATE:

TITLE:

PRINTED CIRCUIT  
BOARD ASS'Y

DRAWING NO.

**34-2603**

CKE  
**Indented BOM**

Page 1  
 11/05/2010  
 08:30:35  
 BRINDENT

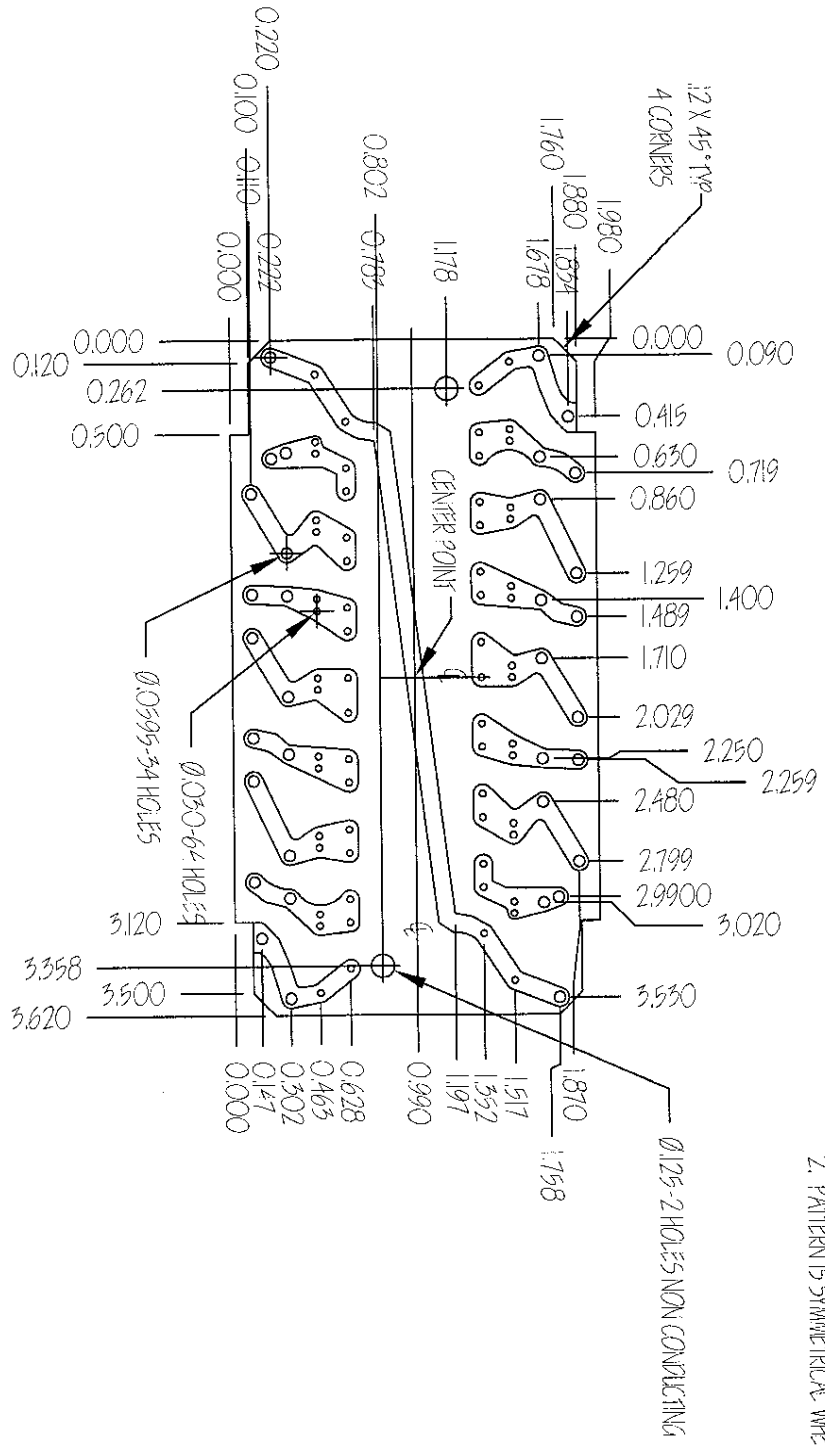
Item: 34-2603      As of 11/05/2010 ALL levels      Active: 09/22/2009      Inactive: / /      Peg Exclusive: N  
 Rev:      Description: PC BOARD ASS'Y REV.1      FG: 34-2603      PC BOARD ASS'Y REV.1  
 Notes: Replaced G3M diode with BY255p diode 11/5/10

	Description	Rev	Find	P/M	U/M	Quantity	Active	Inactive	Peg
34-2521	PC BOARD REV.3			P	EA	1.000	///	///	N
610037	CAP .0022 mfd 2kV Z5P OR Y5P			P	EA	16.000	///	///	N
611062	RES 1M OHM 1/4W 5%			P	EA	16.000	///	///	N
BY255P	1300V DIODE 3.0A BY255P-E3/54			P	EA	16.000	///	///	N

*ck2Y5P222M2kv .*  
*- HV2250000100*  
*4JA100*

*NEED DATASHEETS FOR*

- NOTES:
1. CENTER .100 WIDE CONDUCTING AREA ON .0595 DIA HOLES, CENTER .065 MIN. WIDE CONDUCTING AREA ON .050 DIA HOLES, TRACES .100 WIDE, .115 MIN. CLEARANCE BETWEEN CONDUCTORS
  2. PATTERN IS SYMMETRICAL WHEN ROTATED 180° ON CR POINT



**MATERIAL:** PRE FORM. CR2 BR  
 .0015" THK. 2.50% GAS PROTECTED 2%  
 CATALYTIC COP = 2.0Z/IN. CL. 250 IN COMP

**FINISH:**

**REVISIONS:**  
 1. REVISION: 202E HOLES. 0995 DIA W/HS LYS. ON  
 202E 095 MIN. CONTO. 266.10/5.101  
 2. 202E AND 0995 DIA. 055 PER CONNECTIONS  
 366.1/501.02  
 3. DIA. 0.0595 PER COMMON PONT  
 666.1/301.02

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**TOLERANCE UNLESS NOTED:**  
 DECIMAL + / - .0005  
 FRACTIONAL + / - 1/64

SCALE: FULL

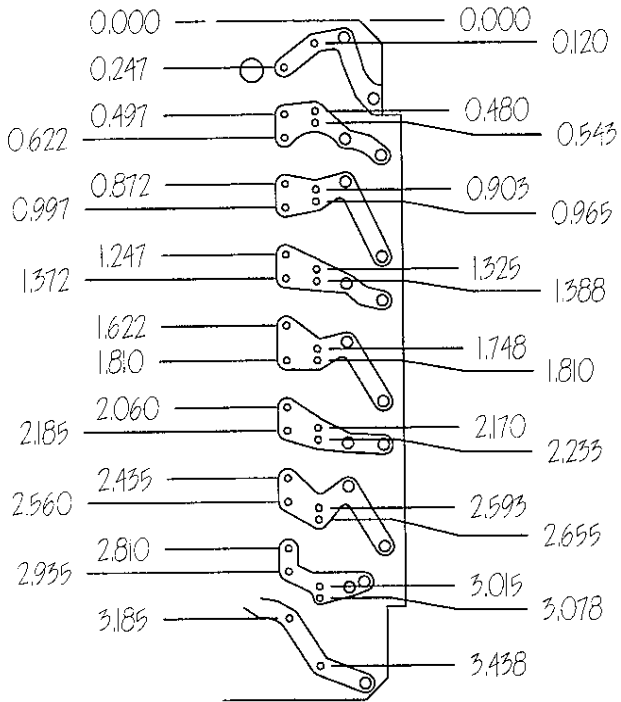
DRAWN: DEG DATE: 10/16/01

APPROVED: DATE:

**TITLE:**  
 PRINTED CIRCUIT BOARD  
 PAGE 1

DRAWING NO.  
 34-2521

NOTES: 1. CENTER 100 WIDE CONDUCTING AREA ON .0995 DIA HOLES,  
 CENTER .065 MIN. WIDE CONDUCTING AREA ON .030 DIA HOLES,  
 SPACES 100 WIDE. .115 MIN. CLEARANCE BETWEEN CONDUCTORS  
 2. PATTERN IS SYMMETRICAL WHEN ROTATED 180° ON CIR POINT



MATERIAL: PCB 20K95, 0.02 IN.  
 AMMANTER PLATED ALUMINUM 0.002 IN.  
 CONDUCTIVE AREA = 2.02 IN. CIRCULAR CONDUCT

FINISH:

REVISIONS:  
 1. REVISED CONDUCTING AREAS - 0.0995 DIA HOLES  
 4/27/99 0.065 MIN. WIDE CONDUCTING AREAS ON .030 DIA HOLES  
 2. REVISED 0.0995 DIA HOLES FOR CONDUCTORS  
 11/14/02  
 3. REVISED 0.0995 DIA HOLES FOR CONDUCTORS  
 11/14/02

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TOLERANCE UNLESS NOTED:  
 DECIMAL +/- 0.0005  
 FRACTIONAL +/- 1/164

SCALE: FULL

DRAWN: DEG. DATE: 2/22/02

APPROVED: DATE:

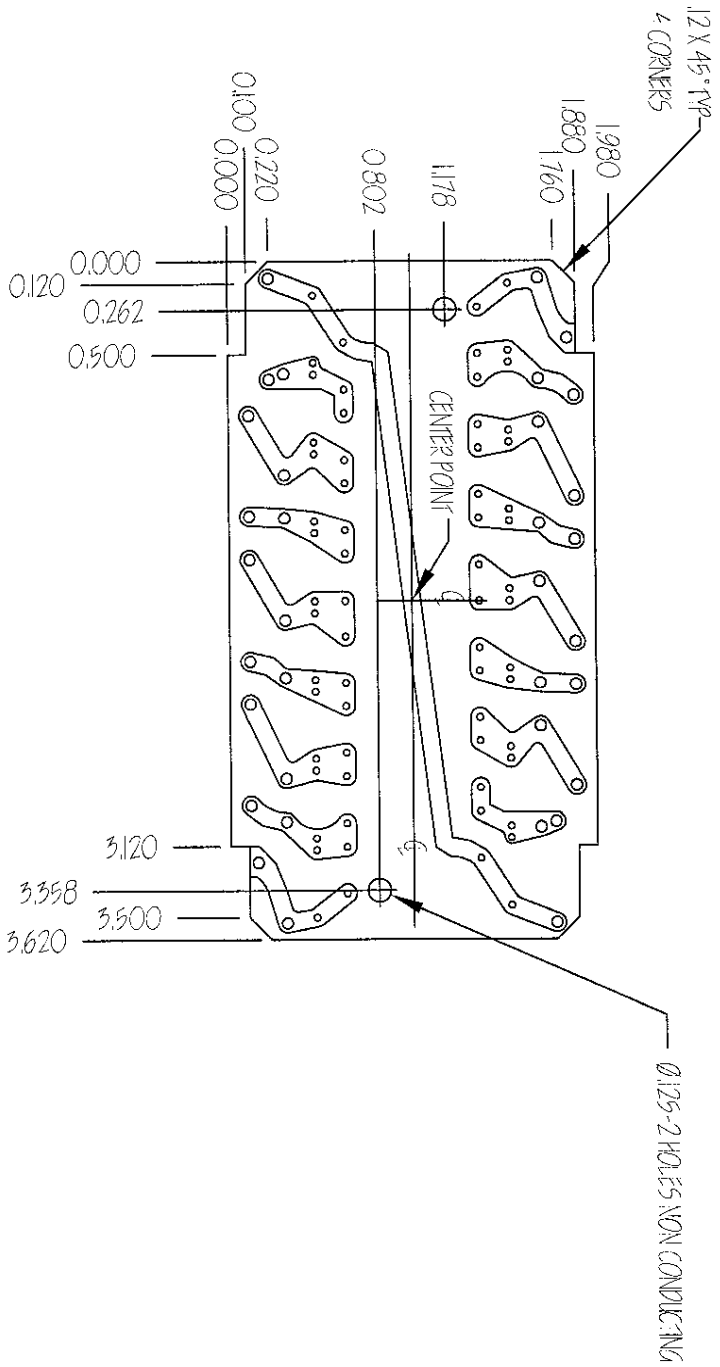
TITLE:

PRINTED CIRCUIT BOARD  
 PAGE 3

DRAWING NO.

34-2521

NOTES: 1. CENTER .100 WIDE CONDUCTING AREA ON .0595 DIA HOLES,  
 CENTER .065 MIN. WIDE CONDUCTING AREA ON .050 DIA HOLES,  
 TRACES .100 WIDE. .115 MIN CLEARANCE BETWEEN CONDUCTORS  
 2. PATTERN IS SYMMETRICAL WHEN ROTATED 180° ON CENTER POINT



MATERIAL: 1985 B0140, 063 BR.  
 LAMINATED P-150C 0.065 FROM 0899E R-4  
 CONDUCTIVE AREA = 2.021 IN. (51.50) IN CONDUCT

FINISH:

REVISIONS:  
 1. REVISED DRAWING FOR HOLE LOCATIONS 0595 DIA HOLES  
 1.050 DIA MIN. CLEARANCE .165 DIA DIA HOLES  
 2. REVISED DRAWING FOR HOLE LOCATIONS 050 DIA HOLES  
 1.050 DIA MIN. CLEARANCE .165 DIA DIA HOLES  
 3. DRAWING TO BE FROM CONDUCTIVE AREA  
 1.050 DIA MIN. CLEARANCE

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 FRACTIONAL +/- 0.0005

SCALE: FULL

DRAWN: DEG DATE: 10/16/01

APPROVED: DATE:

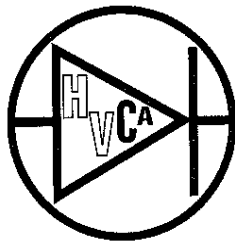
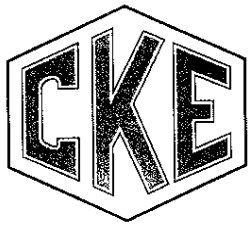
TITLE:

PRINTED CIRCUIT BOARD

PAGE 2

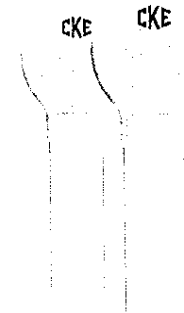
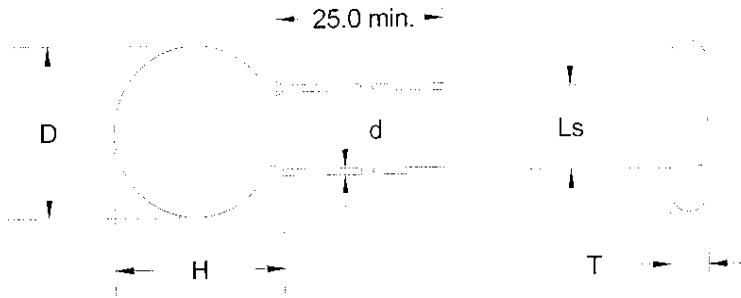
DRAWING NO.

34-2521

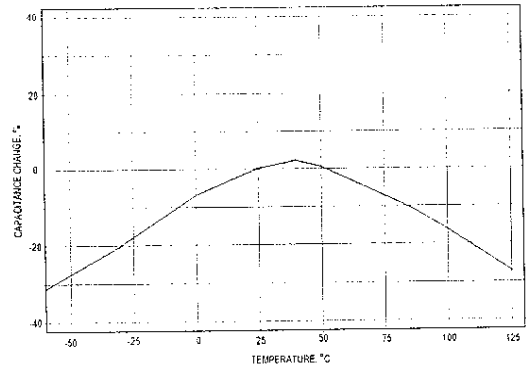


# CK2Y5P222M2KV 2200 pF, 2 kV, Y5P CAPACITOR

Effective March 5, 2010



Dimension Details				
'D'	'H'	'T'	'Ls'	'd'
Maximum	Maximum	Maximum	+/-1.5	Typical
mm	mm	mm	mm	mm
8	10	2.75	5.5	0.5



Specifications					
Part Number	Capacitance (pF)	Rated Voltage (KV DC)	Dielectric Withstand Voltage (Kv)	Temperature Characteristics	Tolerance
CK2Y5P222M2KV	2200	2	4	Y5P	± 20%

## High Ohmic/High Voltage Metal Film Leaded Resistors

### FEATURES

- Metal film technology
- High pulse loading (up to 10 kV) capability
- Small size (0207/0411)
- Compatible with lead (Pb)-free and lead containing soldering processes
- Compliant to RoHS directive 2002/95/EC



RoHS  
COMPLIANT

### APPLICATIONS

- Power supplies
- Electronic ballast
- White goods
- Television

A homogenous film of metal alloy is deposited on a high grade ceramic body. After a helical groove has been cut in the resistive layer, tinned electrolytic copper wires are welded to the end-caps. The resistors are coated with a blue, non-flammable lacquer, which provides electrical, mechanical, and climatic protection.

TECHNICAL SPECIFICATIONS					
DESCRIPTION	HVR25		HVR37		
Resistance Range	100 kΩ to 10 MΩ	100 kΩ to 10 MΩ	100 kΩ to 10 MΩ	100 kΩ to 10 MΩ	
Resistance Tolerance	± 5 % E24 series	± 1 % E24/E96 series	± 5 % E24 series	± 1 % E24/E96 series	
Temperature Coefficient	± 200 ppm/K				
Climatic Category (LCT/UCT/Days)	55/155/56				
Rated Dissipation, $P_{70}$	0.25 W		0.5 W		
Maximum Permissible Voltage $U_{max}$	DC	1600 V	3500 V		
	RMS	1150 V	2500 V		
Basic Specification	IEC 60115-1				
Stability After:	Load (1000 h, $P_{70}$ )	± (5 % $R$ + 0.1 Ω)	± (1.5 % $R$ + 0.1 Ω)	± (5 % $R$ + 0.1 Ω)	± (1.5 % $R$ + 0.1 Ω)
	Long Term Damp Heat Test (56 Days)	± (1.5 % $R$ + 0.1 Ω)	± (1.5 % $R$ + 0.1 Ω)	± (1.5 % $R$ + 0.1 Ω)	± (1.5 % $R$ + 0.1 Ω)
	Soldering (10 s, 260 °C)	± (1 % $R$ + 0.1 Ω)	± (1 % $R$ + 0.1 Ω)	± (1 % $R$ + 0.1 Ω)	± (1 % $R$ + 0.1 Ω)

PART NUMBER AND PRODUCT DESCRIPTION (1)								
PART NUMBER: HVR2500001503JA100								
H	V	R	2	5	0	0	0	
MODEL/SIZE		VARIANT	TCR/MATERIAL	VALUE		TOLERANCE	PACKAGING (2)	SPECIAL
HVR2500 HVR3700		0 = Neutral	0 = Standard	3 digit value 1 digit multiplier MULTIPLIER 3 = *10 <sup>3</sup> 4 = *10 <sup>4</sup> 5 = *10 <sup>5</sup>		F = ± 1 % J = ± 5 %	A1 A5 R5 N4	Up to 2 digits 00 = Standard
PRODUCT DESCRIPTION: HVR25 5 % A1 150K								
HVR25		5 %	A1	150K				
MODEL		TOLERANCE	PACKAGING (2)	RESISTANCE VALUE				
HVR25 HVR37		± 1 % ± 5 %	A1 A5 R5 N4	150K = 150 kΩ 4M64 = 4.64 MΩ				

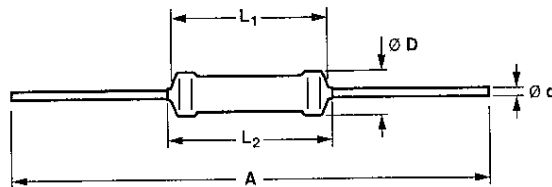
**Notes**

(1) The PART NUMBER is shown to facilitate the introduction of the unified part numbering system

(2) Please refer to table PACKAGING, see next page

PACKAGING					
MODEL	TAPING	AMMO PACK		REEL	
		PIECES	CODE	PIECES	CODE
HVR25	Axial, 52 mm	5000	A5	5000	R5
	Radial	4000	N4		
HVR37	Axial, 52 mm	1000	A1	5000	R5

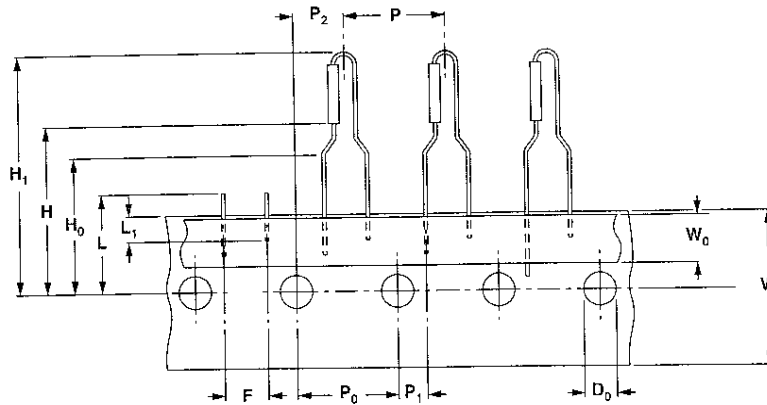
**DIMENSIONS**



DIMENSIONS - Resistor types, mass and relevant physical dimensions						
TYPE	L <sub>1</sub> max. (mm)	L <sub>2</sub> max. (mm)	D <sub>max.</sub> (mm)	Ø d (mm)	A (mm)	MASS (mg)
HVR25	6.5	7.5	2.5	0.58 ± 0.05	52.5 ± 1.5	220
HVR37	10	12	4	0.78 ± 0.05	52.5 ± 1.5	500



## PRODUCTS WITH RADIAL LEADS (HVR25)



DIMENSIONS - Radial Taping				
SYMBOL	PARAMETER	VALUE	TOLERANCE	UNIT
P	Pitch of components	12.7	± 1.0	mm
P <sub>0</sub>	Feed-hole pitch	12.7	± 0.2	mm
P <sub>1</sub>	Feed-hole centre to lead at topside at the tape	3.85	± 0.5	mm
P <sub>2</sub>	Feed-hole center to body center	6.35	± 1.0	mm
F	Lead-to-lead distance	4.8	+ 0.7/- 0	mm
W	Tape width	18.0	± 0.5	mm
W <sub>0</sub>	Minimum hold down tape width	5.5	-	mm
H <sub>1</sub>	Component height	29	Max.	mm
H <sub>0</sub>	Lead wire clinch height	16.5	± 0.5	mm
H	Height of component from tape center	19.5	± 1	mm
D <sub>0</sub>	Feed-hole diameter	4.0	± 0.2	mm
L	Maximum length of snapped lead	11.0	-	mm
L <sub>1</sub>	Minimum lead wire (tape portion) shortest lead	2.5	-	mm

**Note**

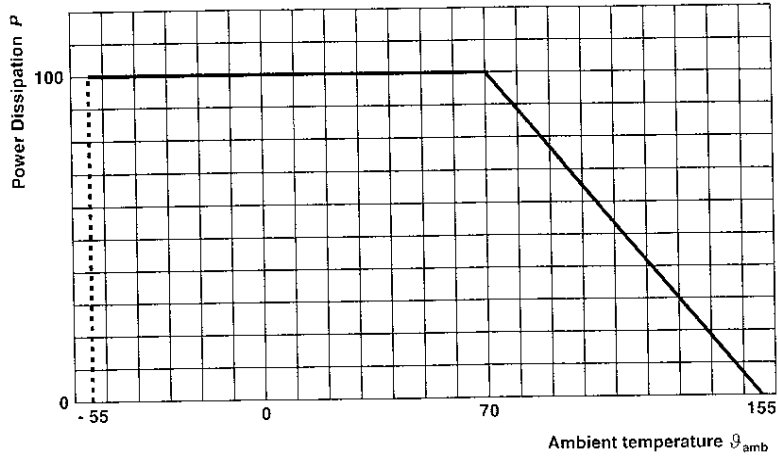
- Please refer document number 28721 "Packaging" for more detail

**MARKING**

The nominal resistance and tolerance are marked on the resistor using four or five colored bands in accordance with IEC 60062, marking codes for resistors and capacitors. Standard values of nominal resistance are taken from the E24 and E24/E96 series for resistors with a tolerance of ± 5 % or ± 1 % respectively. The values of the E24/E96 series are in accordance with IEC 60063. Yellow and grey are used instead of gold and silver because metal particles in the lacquer could affect high-voltage properties.



**FUNCTIONAL PERFORMANCE**



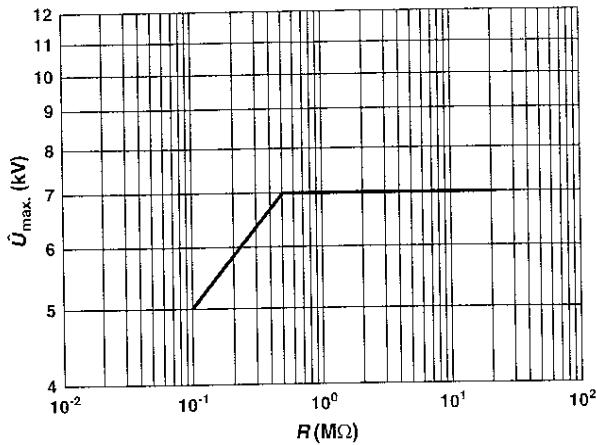
**Derating - Standard Operation**

Maximum dissipation ( $P_{max}$ ) in percentage of rated power as a function of ambient temperature ( $T_{amb}$ )

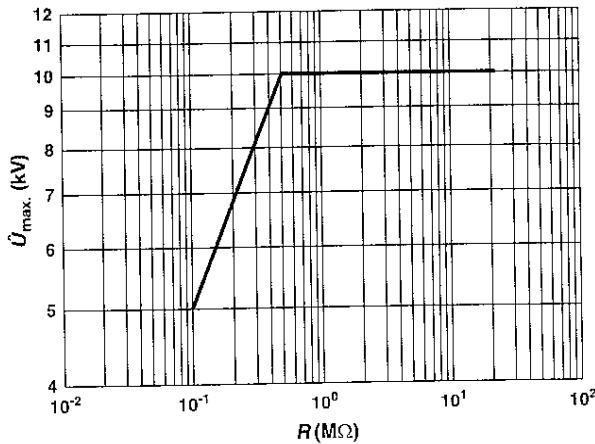
**PULSE LOADING CAPABILITY**

**Note**

- Maximum allowed peak pulse voltage in accordance with IEC 60065, 14.1.a; 50 discharges from a 1 nF capacitor charged to  $U_{max}$ ; 12 discharges/min



**HVR25**  
 $\Delta R = \pm (4.0 \% R + 0.1 \Omega)$



**HVR37**  
For 5 % tolerance  $\Delta R = \pm (4.0 \% R + 0.1 \Omega)$   
For 1 % tolerance  $\Delta R = \pm (2.0 \% R + 0.1 \Omega)$

## TESTS AND REQUIREMENTS

Essentially all tests are carried out in accordance with IEC 60115-1, category 55/155/56 (rated temperature range - 55 °C to + 155 °C; damp heat, long term, 56 days) and along the lines of IEC 60068-2-xx test method. The tests are carried out under standard atmospheric conditions according to IEC 60068-1, 5.3 unless otherwise specified. In some instances deviations from IEC recommendations were necessary for our method of specifying.

PERFORMANCE					
IEC 60115-1 CLAUSE	IEC 60068-2-xx TEST METHOD	TEST	PROCEDURE	REQUIREMENTS PERMISSIBLE CHANGE ( $\Delta R$ )	
				HVR25	HVR37
4.8	-	Temperature coefficient	Between - 55 °C and + 155 °C	$\pm 200$ ppm/K	
4.25.1	-	Endurance at 70 °C	1000 h; loaded with $P_{70}$ or $U_{max}$ ; 1.5 h ON; 0.5 h OFF for 5 % tolerance for 1 % tolerance	$\pm (5 \% R + 0.1 \Omega)$ $\pm (1.5 \% R + 0.1 \Omega)$	
4.24	78 (Cab)	Damp heat, steady state	56 days; 40 °C; 90 % to 95 % RH loaded with 0.01 $P_{70}$ for 5 % tolerance for 1 % tolerance	$\pm (5 \% R + 0.1 \Omega)$ $\pm (1.5 \% R + 0.1 \Omega)$	
4.23	2 (Ba) 30 (Db) 1 (Aa) 30 (Db)	Climatic sequence	16 h, 155 °C 24 h; 25 °C to 55 °C 90 % to 100 % RH; 1 cycle 2 h, - 55 °C 5 days; 25 °C to 55 °C 90 to 100 % RH	$\pm (1.5 \% R + 0.1 \Omega)$	
4.23.2		Dry heat			
4.23.3		Damp heat, cyclic			
4.23.4		Cold			
4.23.6		Damp heat, (accelerated) remaining cycles			
4.19	14 (Na)	Rapid change of temperature	30 min at LCT; 30 min at UCT; LCT = - 55 °C; UCT = 155 °C; 5 cycles	No visual damage $\pm (1 \% R + 0.1 \Omega)$	
4.13	-	Short time overload	Room temperature; dissipation 6.25 x $P_{70}$ (voltage not more than 2 x limiting voltage, 10 000 $V_{max}$ .); 10 cycles 5 s ON and 45 s OFF for 5 % tolerance for 1 % tolerance	$\pm (2 \% R + 0.1 \Omega)$ $\pm (1 \% R + 0.1 \Omega)$	
4.12	-	Noise	IEC 60195	Max. 5 $\mu V/V$	Max. 2.5 $\mu V/V$
4.16	21 (Ua1) 21 (Ub) 21 (Uc)	Robustness of terminations:	Load 10 N; 10 s Load 5 N; 4 x 90° 3 x 360° in opposite direction	No damage $\pm (1 \% R + 0.1 \Omega)$	
4.16.2		Tensile all samples			
4.16.3		Bending half number of samples			
4.16.4		Torsion other half of samples			

PERFORMANCE					
IEC 60115-1 CLAUSE	IEC 60068-2-xx TEST METHOD	TEST	PROCEDURE	REQUIREMENTS PERMISSIBLE CHANGE ( $\Delta R$ )	
				HVR25	HVR37
4.22	6 (Fc)	Vibration	Frequency 10 Hz to 500 Hz; displacement 1.5 mm or acceleration 10 g; 3 directions; total 6 h (3 x 2 h)	$\pm (1.0 \% R + 0.1 \Omega)$	
4.17	20 (Ta)	Solderability (after ageing)	2 s; 235 °C: Solder bath method; SnPb40 3 s; 245 °C: Solder bath method; SnAg3Cu0.5	Good tinning ( $\geq 95 \%$ covered); no visible damage	
4.18	20 (Tb)	Resistance to soldering heat	Thermal shock: 10 s; 260 °C; 3 mm from body	$\pm (1 \% R + 0.1 \Omega)$	
4.29	45 (XA)	Component solvent resistance	Isopropyl alcohol	No visible damage	
4.6.11	-	Insulation resistance	$U = 500 V_{DC}$ during 1 min, V-block method	$R_{ins}$ min. $10^4 M\Omega$	
4.7	-	Voltage proof on insulation	$U_{RMS} = 700 V$ during 1 min, V-block method	No flashover or breakdown	

**12NC INFORMATION FOR HISTORICAL CODING REFERENCE ONLY**

- The resistors have a 12 digit ordering code starting with 2306
- The next 4 or 5 digits indicate the resistor type and packaging
- For 5 % tolerance the last 3 digits indicate the resistance value:
  - The first 2 digits indicate the resistance value
  - The last digit indicates the resistance decade in accordance with table
- For 1 % tolerance the last 4 digits indicate the resistance value:
  - The first 3 digits indicate the resistance value
  - The last digit indicates the resistance decade in accordance with table

**Last Digit of 12NC Indicating Resistance Decade**

RESISTANCE DECADE (5 %)	RESISTANCE DECADE (1 %)	LAST DIGIT
100 k $\Omega$ to 910 k $\Omega$	100 k $\Omega$ to 976 k $\Omega$	4
1 M $\Omega$ to 9.1 M $\Omega$	1 M $\Omega$ to 9.76 M $\Omega$	5
= 10 M $\Omega$	= 10 M $\Omega$	6

**12NC Example**

HVR25, 150 k $\Omega$ ,  $\pm 5 \%$ , ammpack 1000 pieces is  
**2306 241 13154**

12NC - Resistor type and packaging						
DESCRIPTION			2306 ... ..			
			BANDOLIER IN AMMOPACK			BANDOLIER ON REEL
TYPE	TAPE WIDTH	TOLERANCE	RADIAL TAPED	1000 UNITS	5000 UNITS	5000 UNITS
			4000 UNITS			
HVR25	52.5	$\pm 5 \%$	241 36...	241 13...	241 53...	241 23...
		$\pm 1 \%$	241 0....	241 8....	241 7....	241 6....
HVR37	52.5	$\pm 5 \%$	-	242 13...	-	242 23...
		$\pm 1 \%$	-	242 8....	-	242 6....



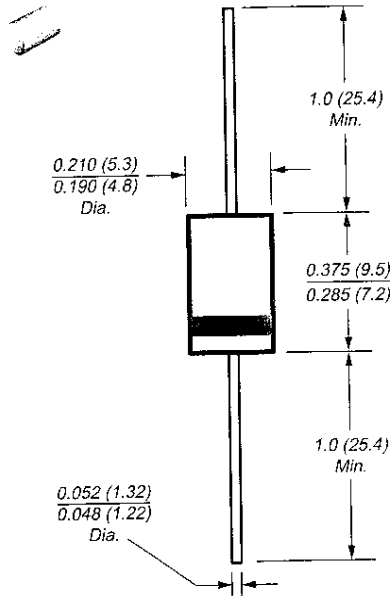
# BY251P thru BY255P

Vishay Semiconductors  
formerly General Semiconductor

## General Purpose Rectifiers

Reverse Voltage  
200 to 1300V  
Forward Current 3.0A

DO-201AD



Dimensions in inches and (millimeters)

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High surge current capability
- Typical  $I_R$  less than 0.1  $\mu$ A
- Construction utilizes void-free molded plastic technique
- 3.0 Ampere operation at  $T_A = 55^\circ\text{C}$  with no thermal runaway
- High temperature soldering guaranteed:  
250  $^\circ\text{C}/10$  seconds, 0.375" (9.5 mm) lead length  
5 lbs. (2.3 kg) 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 oz., 1.12 g

### Maximum Ratings & Thermal Characteristics

Ratings at 25  $^\circ\text{C}$  ambient temperature unless otherwise specified.

Parameter	Symbol	BY251P	BY252P	BY253P	BY254P	BY255P	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1300	V
Maximum RMS voltage	$V_{RMS}$	140	280	420	560	910	V
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	1300	V
Maximum average forward rectified current 10mm lead length at $T_A = 55^\circ\text{C}$	$I_{F(AV)}$	3.0					A
Peak forward surge current 10ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150					A
Maximum full load reverse current, full cycle average 10mm lead length at $T_A = 55^\circ\text{C}$	$I_{R(AV)}$	100					$\mu$ A
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	20 10					$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150					$^\circ\text{C}$

### Electrical Characteristics

Ratings at 25  $^\circ\text{C}$  ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 3.0A	$V_F$	1.1	V
Maximum reverse current at rated DC blocking voltage $T_A = 25^\circ\text{C}$	$I_R$	5.0	$\mu$ A
Typical reverse recovery time $I_F = 0.5\text{A}, I_R = 1.0\text{V}, I_{rr} = 0.25\text{A}$	$t_{rr}$	3.0	$\mu$ s
Typical junction capacitance at 4.0V, 1MHz	$C_J$	40	pF

Note: (1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted

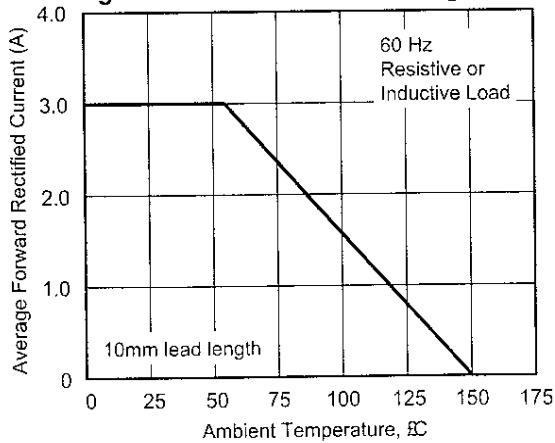
# BY251P thru BY255P



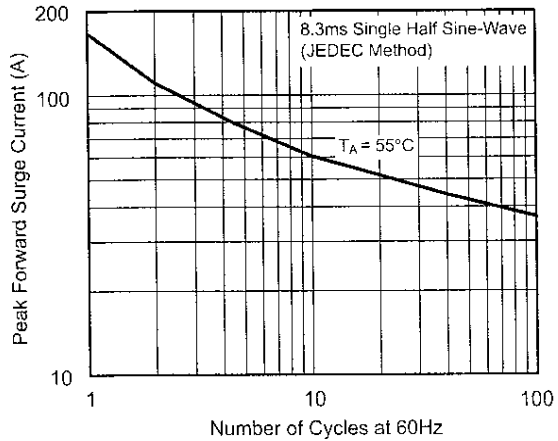
Vishay Semiconductors  
formerly General Semiconductor

## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

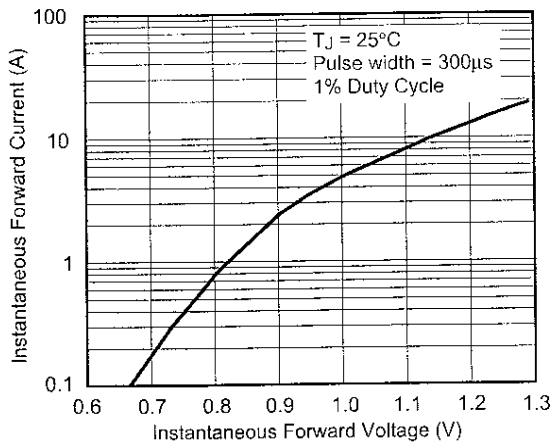
**Fig 1 - Forward Current Derating Curve**



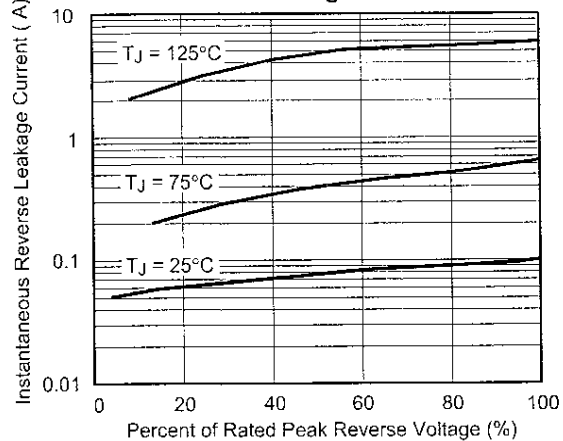
**Fig 2 - Maximum Non-repetitive Peak Forward Surge Current**



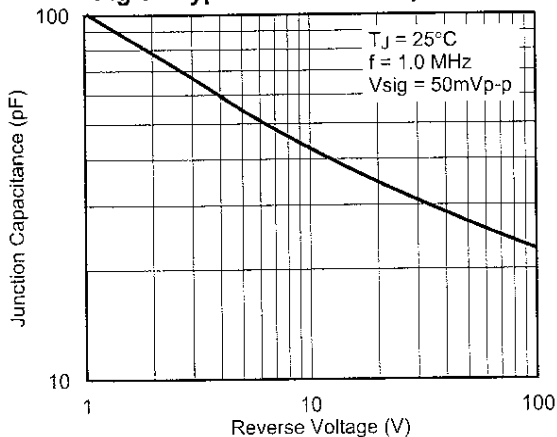
**Fig 3 - Typical Instantaneous Forward Characteristics**



**Fig 2 - Maximum Non-repetitive Peak Forward Surge Current**

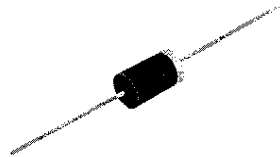


**Fig 5 - Typical Junction Capacitance**





# General Purpose Plastic Rectifier



DO-201AD

### FEATURES

- Low forward voltage drop
- Low leakage current,  $I_R$  less than 0.1  $\mu A$
- High forward surge capability
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS COMPLIANT

### TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes application.

(Note: These devices are not Q101 qualified.)

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
$V_{RRM}$	200 V to 1300 V
$I_{FSM}$	150 A
$I_R$	5.0 $\mu A$
$V_F$	1.1 V
$T_J$ max.	150 °C

### MECHANICAL DATA

**Case:** DO-201AD, molded epoxy body

Epoxy meets UL 94 V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes cathode end

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	BY251P	BY252P	BY253P	BY254P	BY255P	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1300	V
Maximum RMS voltage	$V_{RMS}$	140	280	420	560	910	V
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	1300	V
Maximum average forward rectified current 10 mm lead length	$I_{F(AV)}$	3.0					A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	$I_{FSM}$	150					A
Maximum full load reverse current, full cycle average 10 mm lead length	$I_{R(AV)}$	100					$\mu A$
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150					°C

ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	BY251P	BY252P	BY253P	BY254P	BY255P	UNIT
Maximum instantaneous forward voltage	3.0 A	$V_F$			1.1			V
Maximum reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$	$I_R$			5.0			$\mu\text{A}$
Maximum reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ V}$ , $t_{rr} = 0.25\text{ A}$	$t_{rr}$			3.0			$\mu\text{s}$
Typical junction capacitance	4.0 V, 1 MHz	$C_J$			40			pF

THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	BY251P	BY252P	BY253P	BY254P	BY255P	UNIT
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$			20			$^\circ\text{C/W}$
				10			

**Note:**

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BY253P-E3/54	1.1	54	1400	13" diameter paper tape and reel
BY253P-E3/73	1.1	73	1000	Ammo pack packaging

### RATINGS AND CHARACTERISTICS CURVES

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

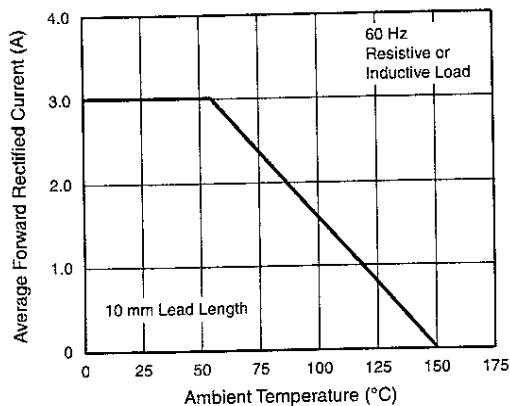


Figure 1. Forward Current Derating Curve

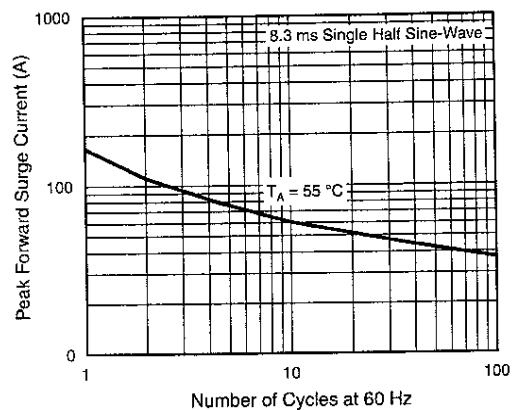


Figure 2. Maximum Non-repetitive Peak Forward Surge Current



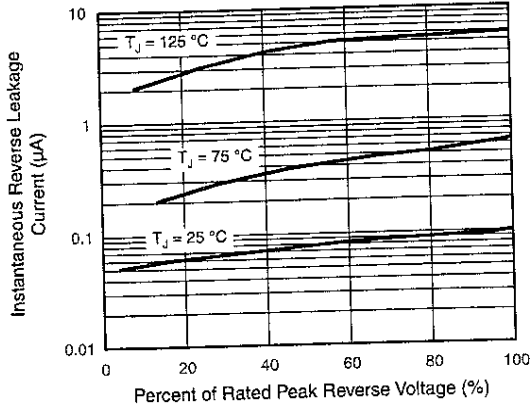


Figure 3. Maximum Non-repetitive Peak Forward Surge Current

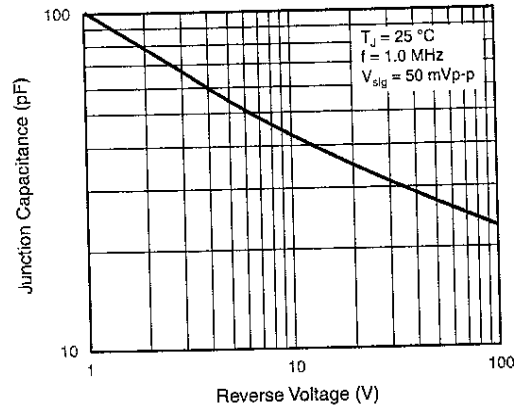


Figure 5. Typical Junction Capacitance

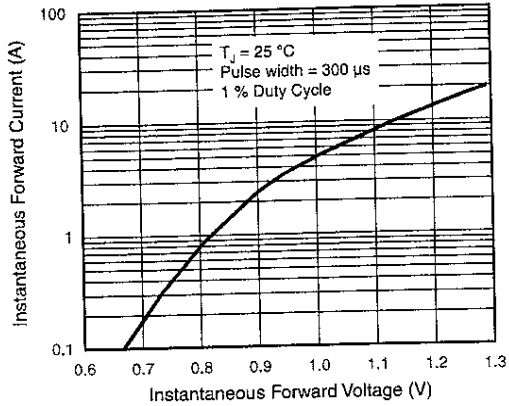


Figure 4. Typical Instantaneous Forward Characteristics

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

