

PBES10JE

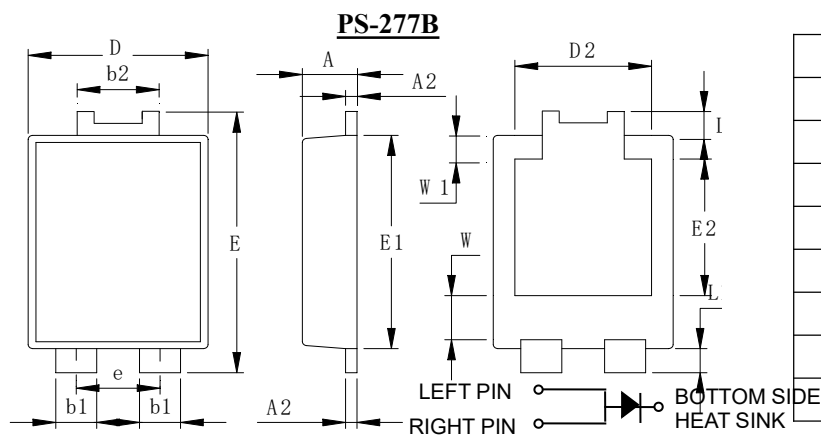
10.0AMPS. SUPER FAST SURFACE MOUNT RECTIFIERS

FEATURE

- . For surface mounted application
- . High current capability
- . Low forward voltage drop
- . Low power loss, high efficiency
- . High surge current capability
- . High temperature soldering guaranteed:
260°C/10 seconds at terminals.

MECHANICAL DATA

- . Terminal: Solder plated
- . Case: Molded with UL-94 Class V-0 recognized
Flame Retardant Epoxy (Halogen free)
- . Weight: 0.083 grams (approximate)



NO	Dimensions	NO	Dimensions
A	1.20±0.1	e	1.84Typ
A2	0.25±0.05	E1	5.3±0.1
b1	0.9±0.1	E2	3.3±0.2
b2	1.8±0.1	L	0.6±0.1
D	3.95±0.1	L1	0.6±0.1
D2	3.00Typ	W	1.3±0.2
E	6.5±0.1	W1	0.6±0.2

All Dimensions in mm

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

MAXIMUM RATINGS (T_C=25°C unless otherwise noted)

Parameter	SYMBOL	PBES10JE	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	600	V
Maximum RMS Voltage	V_{RMS}	420	V
Maximum DC blocking Voltage	V_{DC}	600	V
Average Forward Rectified Current	$I_{F(AV)}$	10.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150	A
Maximum Reverse Recovery Time (Note 1)	t_{rr}	35	nS
Typical Junction Capacitance (Note 2)	C_J	38	pF
Storage Temperature	T_{STG}	-55 to + 150	°C
Operating Junction Temperature	T_J	-55 to + 150	°C

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

Parameter	SYMBOL	Min	Typ	Max	Units
Reverse Breakdown Voltage at I _r =10uA	V_{BR}	600	-----	-----	V
Instantaneous Forward voltage at 10.0A	V_F	-----	1.3	1.7	V
Instantaneous Forward voltage at 1.0A	V_F	-----	-----	1.1	V
Reverse current at rated DC blocking voltage	I_R	-----	-----	5.0	uA

THERMAL CHARACTERISTICS($T_C=25^{\circ}\text{C}$ unless otherwise noted)			
Parameter	SYMBOL	PBES10JE	Units
Typical Thermal Resistance (Note2)	$R_{(JA)}$	65	$^{\circ}\text{C}/\text{W}$
	$R_{(JC)}$	20	

Note:

1. Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Polymide PCB, 2oz. Copper. Cathode pad dimensions 18.8* 14.4*1.6mm. Anode pad dimensions 5.6 x 14.4*1.6mm.

RATING AND CHARACTERISTIC CURVES (PBES10JE)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

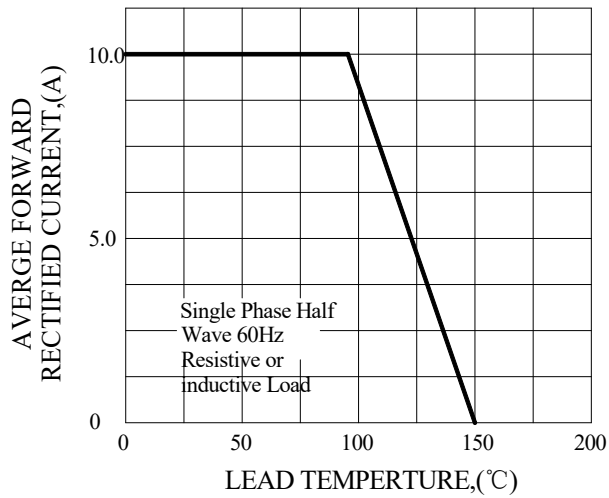


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

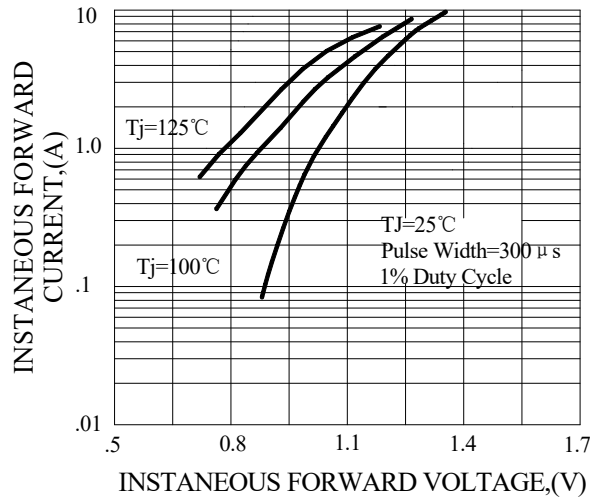


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

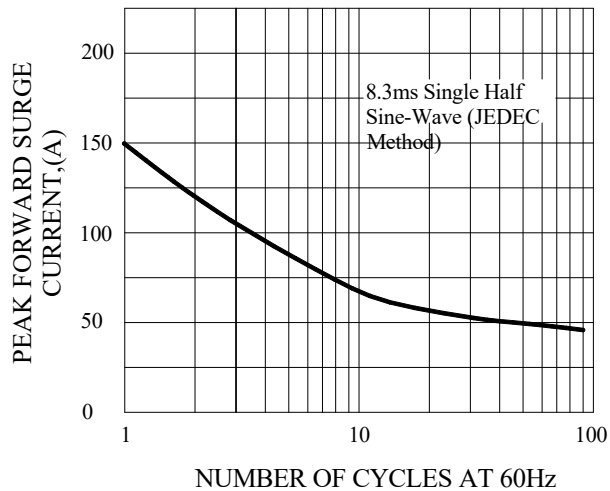


FIG.4-TYPICAL JUNCTION CAPACITANCE

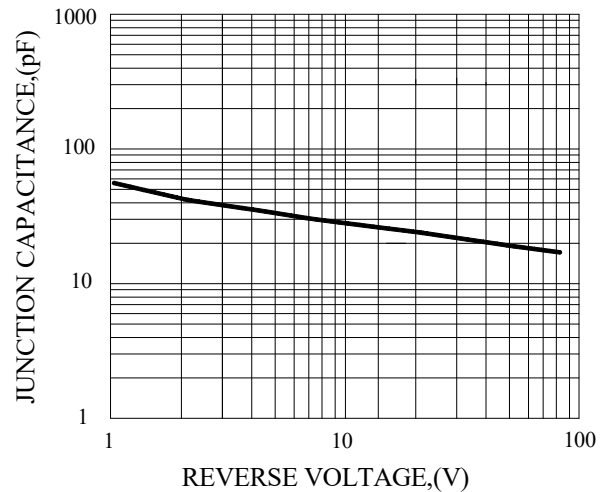


FIG.5-TYPICAL REVERSE CHARACTERISTICS

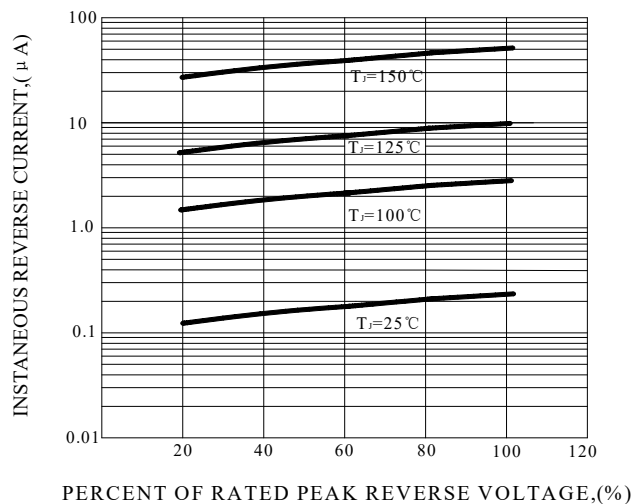
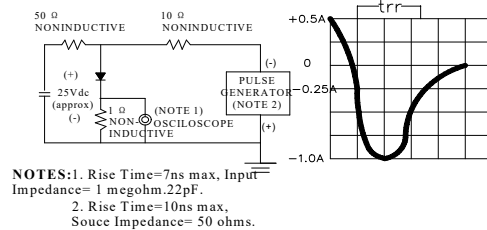
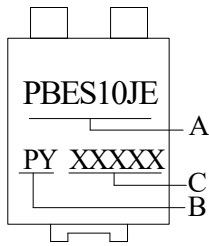


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



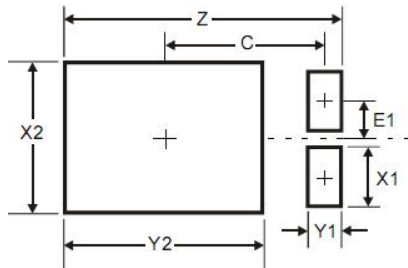
Marking、Pad Layout 、MOQ and Packaging illustration

1、Marking



SYMBOL	Explanation
A	Product Name
B	Trademark
C	Date Code

2、Suggested Pad Layout

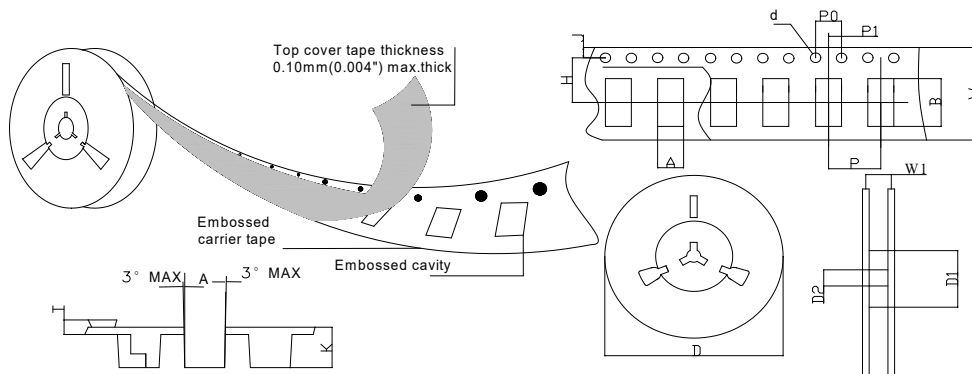


Dimensions	Value (in mm)
Z	6.6
X1	1.4
X2	3.6
Y1	0.8
Y2	4.7
C	3.87
E1	0.9

3、MOQ

3000pcs / Tape & Reel

4、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	PS-277B	ITEM	SYM BOL	PS-277B
Carrier width	A	4.45(0.175)Max	Carrier depth	K	1.60(0.063)Typ
Carrier length	B	7.0(0.276)Max	Punch hole pitch	P	8.00(0.315)Typ
Sprocket hole	d	ø1.55(0.061)Typ	Sprocket hole pitch	P0	4.00(0.157)Typ
Reel outer diameter	D	330.0(13.0)Typ	Embossment center	P1	2.00(0.079)Typ
Reel inner diameter	D1	74.0(2.913)Min	Overall tape thickness	T	0.25(0.010)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	16.0(0.630)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	16.5(0.650)Min
Punch hole position	H	7.50(0.295)Typ			