



DBF406L

VOLTAGE RANGE

600 Volts

CURRENT

4.0 Ampere



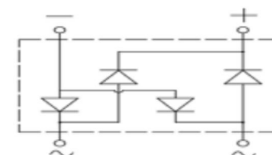
Features

- Glass passivated chip
- Plastic package has underwrites laboratory flammability
- Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief, ideal for automated placement
- Glass Passivated chip junction
- High temperature soldering:250°C/10 second at terminals



Mechanical Data

- Case: JEDED DBF molded plastic over glass passivated chip
- Terminals: Solder plated, Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0083 ounce, 0.234 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 derate current by 20%.

TYPE NUMBER		SYMBOLS	DBF406L	UNIT
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	600	Volts
Maximum RMS Voltage		V_{RMS}	420	Volts
Maximum DC Blocking Voltage		V_{DC}	600	Volts
Maximum Average Forward Rectified Current At $T_A=100^{\circ}C$ ^(NOTE 1)		$I_{(AV)}$	4.0	Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)		I_{FSM}	150	Amps
Maximum Instantaneous Forward Voltage at 4.0A		V_F	0.8	Volts
Maximum DC Reverse Current at rated DC blocking voltage at	$T_A = 25^{\circ}C$	I_R	5.0	μA
	$T_A = 125^{\circ}C$		100	
Maximum Reverse Recovery Time ^(NOTE 3)		T_{RR}	1000	nS
Typical Junction Capacitance ^(NOTE 2)		C_J	45	pF
Typical Thermal Resistance ^(NOTE 1)		$R_{\theta JA}$	75	$^{\circ}C/W$
		$R_{\theta JL}$	33	
Operating Junction Temperature		T_J	-55 to +150	$^{\circ}C$
Storage Temperature Range		T_{STG}	-55 to +150	$^{\circ}C$

Notes:

1. Thermal Resistance test performed in accordance with JESD-51. Unit mounted on 15mm*12mm*1.6mm AL pad attach 195mm*110mm*10mm steel plate
2. Measured at 1.0MHz and applied reverse voltage of 4.0V.
3. Test conditions $I_F = 0.5A$, $I_R = 1.0A$, $IRR = 0.25A$.



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

FIG.1—TYPICAL FORWARD CURRENT DERATING CURVE

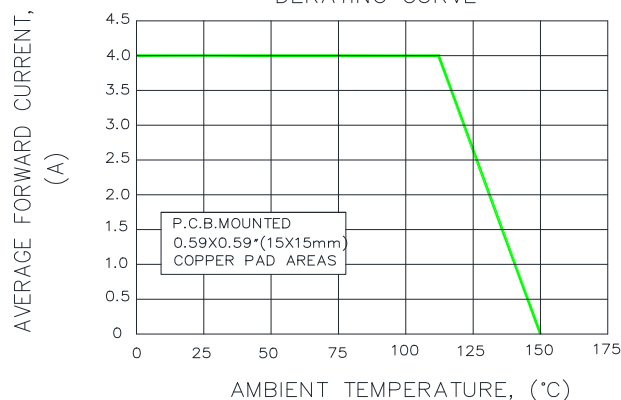


FIG.2—MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

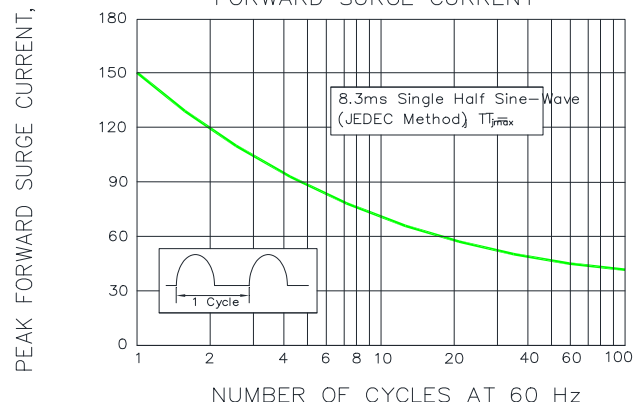


FIG.3—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

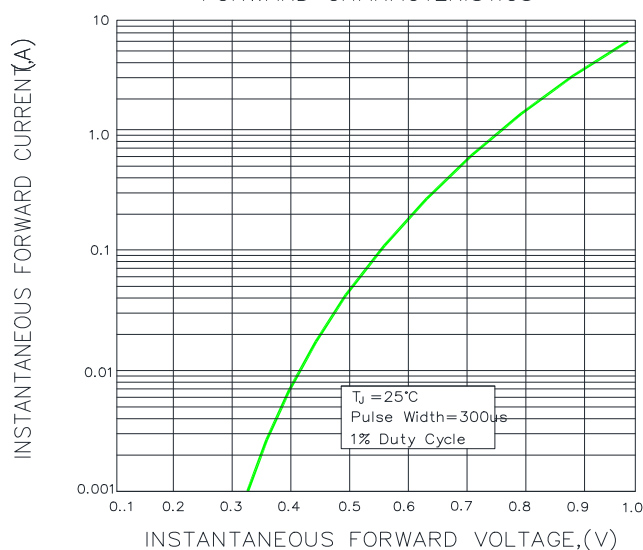


FIG.4—TYPICAL REVERSE CHARACTERISTICS

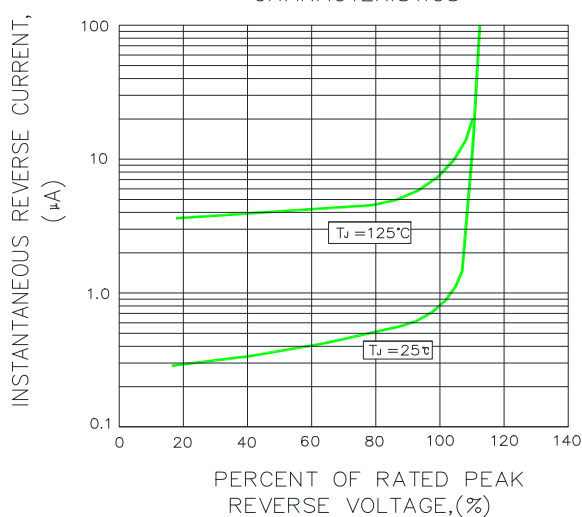
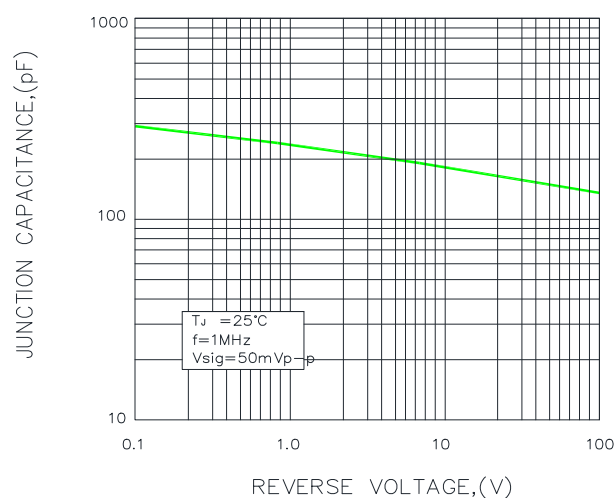


FIG.5—TYPICAL JUNCTION CAPACITANCE

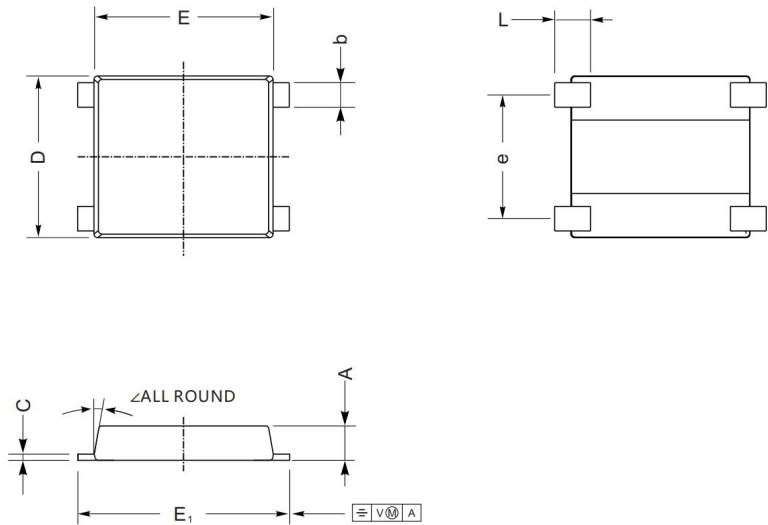




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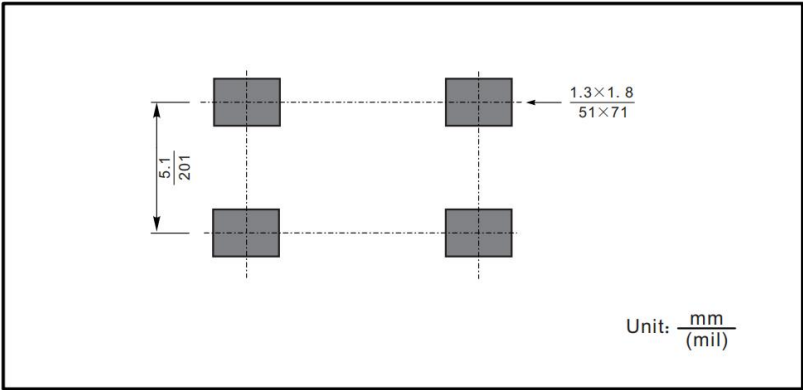
Package Outline Dimensions in inches (millimeters)



UMSB mechanical data

UNIT		A	C	D	E	E ₁	L	e	b	∠
mm	max	1.5	0.29	7.0	7.6	8.9	1.6	5.3	1.15	10°
	min	1.3	0.17	6.2	7.1	8.4	1.0	4.9	0.95	
mil	max	59	12	276	299	350	55	209	45	
	min	51	7	244	280	331	31.5	193	37	

The recommended mounting pad size



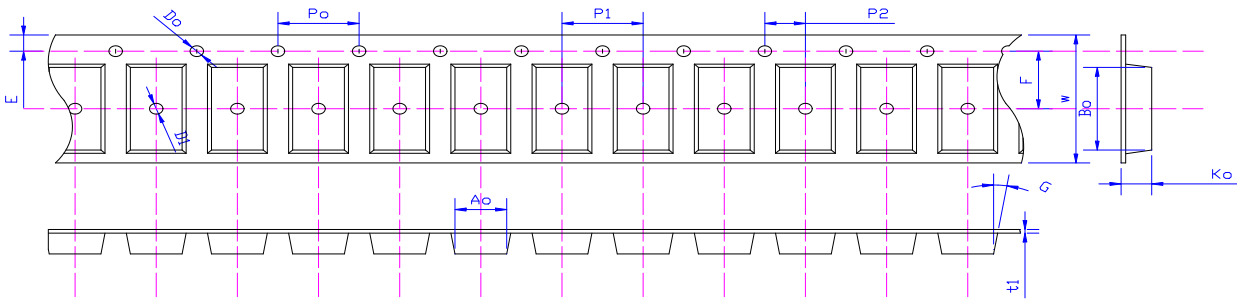


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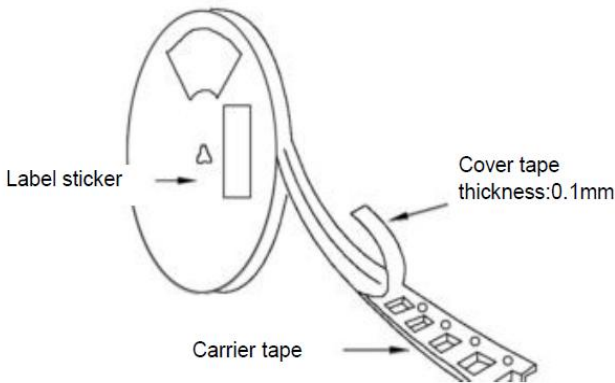
Package Reel Information

- PS black anti-static carrier tape packing



Specifications	Ao	Bo	Ko	Po	W	t1
DBF	5.31±0.10	6.68±0.10	1.59±0.10	4.00±0.1	12.0±0.10	0.30±0.02

- 13 "antistatic plastic reel



DEVICE TYPE	13" Reel			
	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTOON	Q'TY/CARTON(pcs)
DBF	5000	2	8	80000



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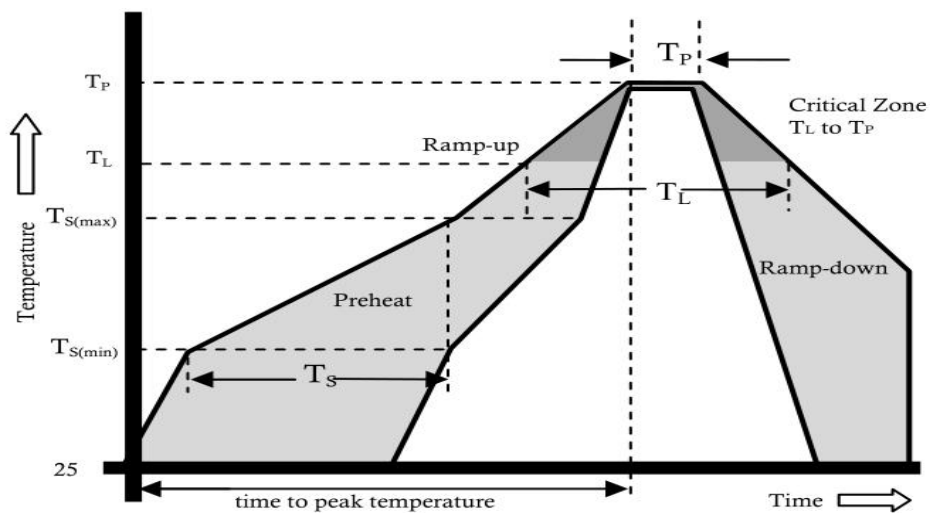
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Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T_L) to peak)		3°C/sec. Max.
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T_L)(Liquidus)	+217°C
	Temperature (T_L)	60-150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C