



## DF15005S THRU DF1510S

VOLTAGE RANGE

50 to 1000 Volts

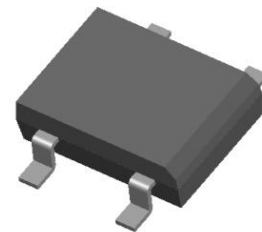
CURRENT

1.5 Ampere

## Features

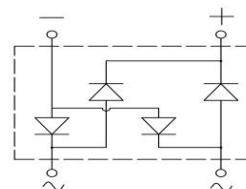


- Glass passivated chip
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering: 260°C/10S at terminals
- Component in accordance to ROHS 2002/95/1 and WEEE 2002/96/EC



## Mechanical Data

- Case: Molded plastic body
- Molding compound meets UL 94 V-0 flammability rating, Halogen-free, RoHS-compliant, and commercial grade
- Polarity: Molded on body
- Weight: 0.02 ounce, 0.40 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	SYMBOL	DF 15005S	DF 1501S	DF 1502S	DF 1504S	DF 1506S	DF 1508S	DF 1510S	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current $T_L=100^\circ\text{C}$	$I_{(AV)}$	1.5							Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	50							Amps
Maximum Instantaneous Forward Voltage @ 1.5A	$V_F$	1.1							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$	5.0							$\mu\text{A}$
	$T_A = 125^\circ\text{C}$	100							
Typical Junction Capacitance <sup>(Note 1)</sup>	$C_J$	30							pF
Typical Thermal Resistance <sup>(Note 2)</sup>	$R_{\theta JA}$	26							$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	65							
Operating Junction Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance test performed in accordance with JESD-51. Unit mounted on 15mm\*12mm\*1.6mm AL pad attach 195mm\*110mm\*10mm steel plate.
3. The typical data above is for reference only.

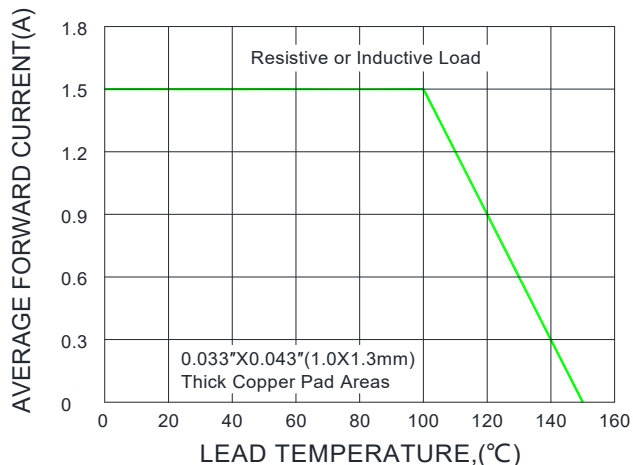


# DF15005S THRU DF1510S

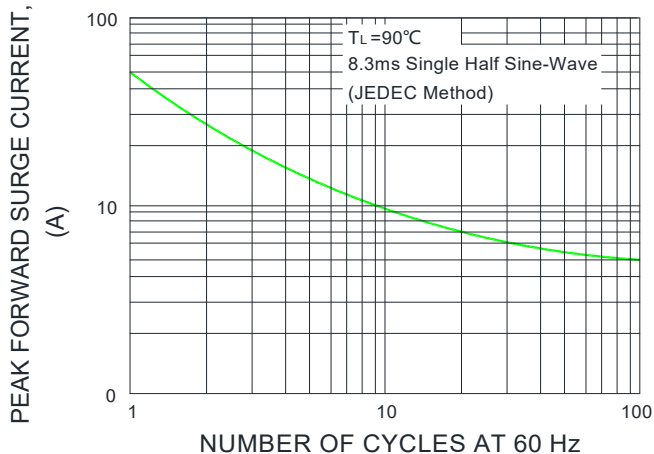
VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 1.5 Ampere

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

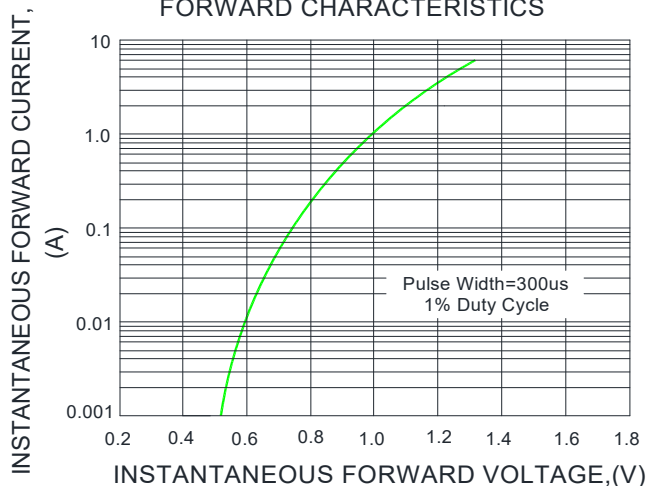
F1G.1-FORWARD CURRENT DERATING CURVE



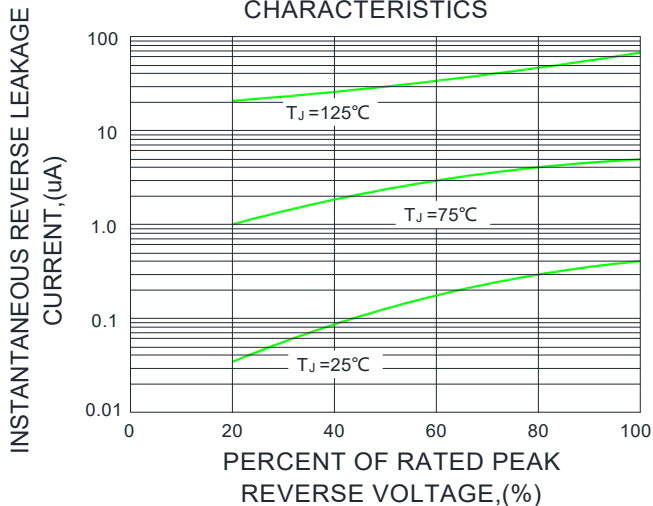
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



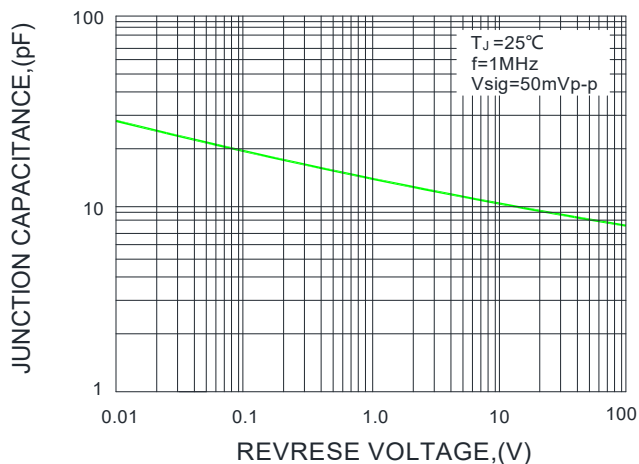
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE





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VOLTAGE RANGE

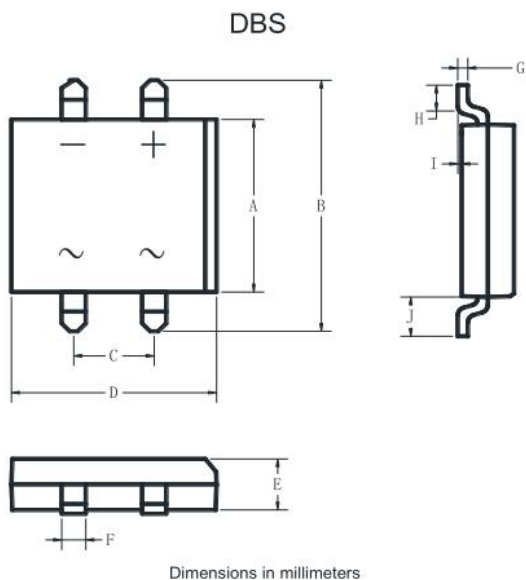
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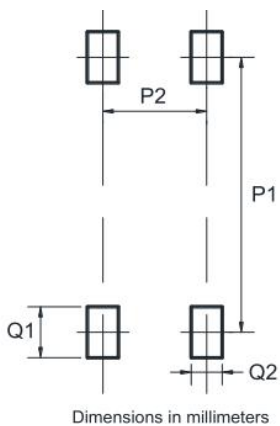
Package Outline Dimensions in inches (millimeters)

- Outline Dimensions



Dim	mm		in	
	min	max	min	max
A	6.20	6.50	.244	.256
B	9.60	10.30	.378	.406
C	5.00	5.20	.197	.205
D	8.13	8.51	.320	.335
E	2.38	2.45	.093	.096
F	0.98	1.13	.038	.044
G	0.18	0.23	.007	.009
H	1.02	1.53	.040	.060
I	0.05	0.20	.001	.007
J	1.80	2.10	.070	.082

- Suggested pad layout



Dim	Min
P1	8.73
P2	5.12
Q1	2.22
Q2	1.2

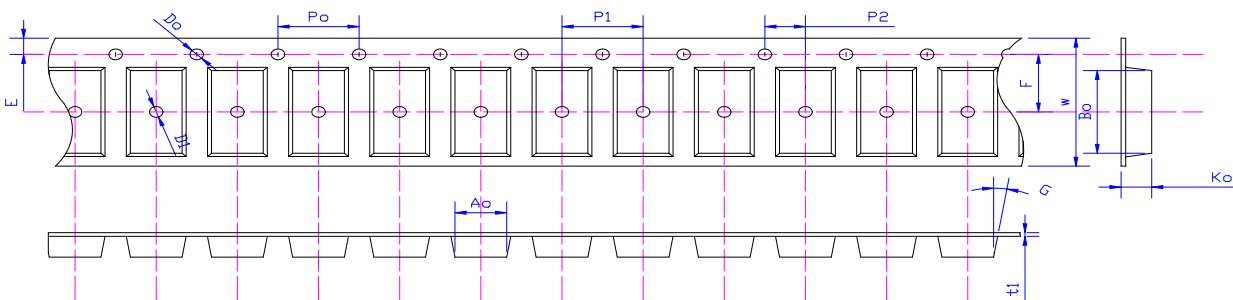


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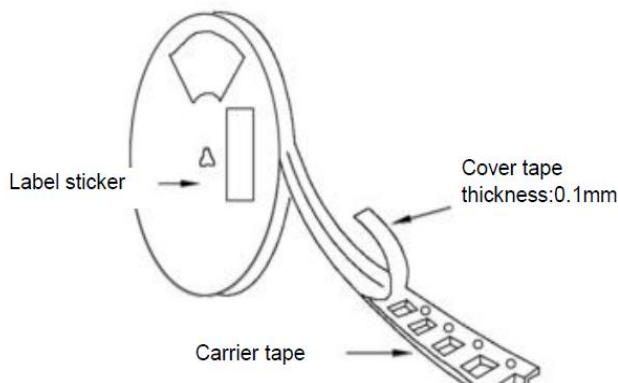
Packing Requirements

- PS black anti-static carrier tape packing



Specifications	Ao	Bo	Ko	Po	W	t1
DBS	8.64±0.10	9.85±0.10	2.60±0.10	4.00±0.1	16.0±0.10	0.30±0.02

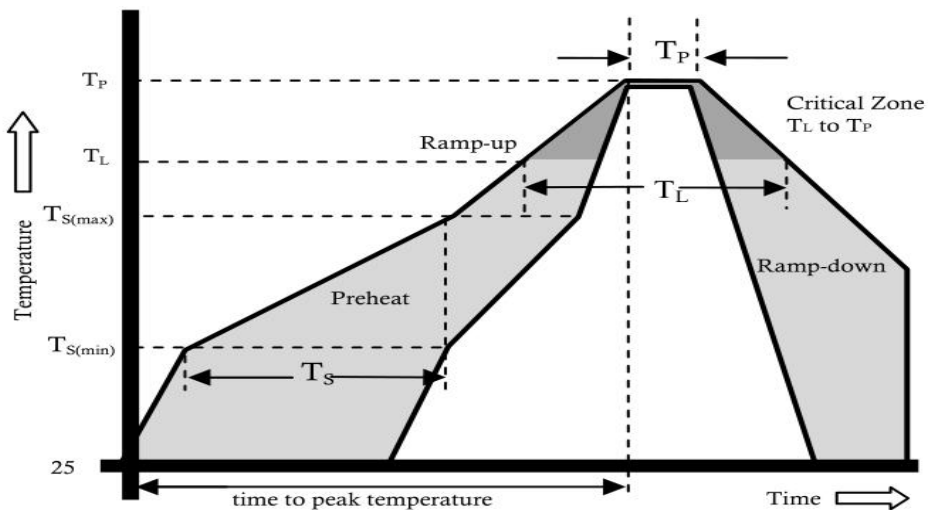
- 13" antistatic plastic reel



DEVICE TYPE	13" Reel			
	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTOON	Q'TY/CARTON(pcs)
DBS	3000	2	8	48000



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 ( $T_I$ )	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



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## Disclaimer

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