ANOVA

AT02P-170

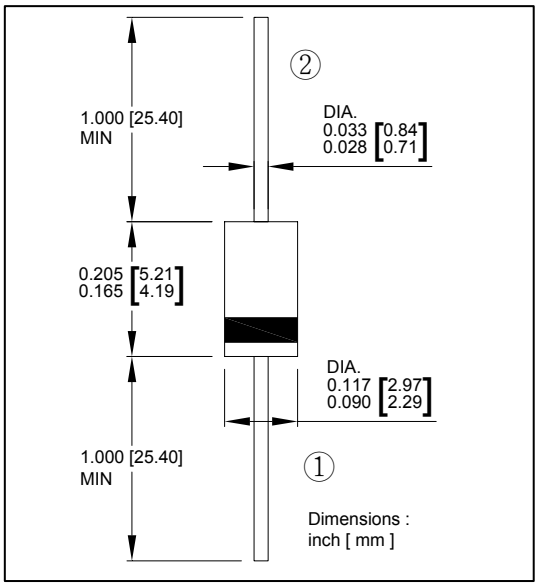
GLASS PASSIVATED
LOW CAPACITANCE
Transient Voltage Suppression

PEAK PULSE POWER **200** WATTS

FEATURES

- Glass passivated chip
- 200 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low incremental surge resistance
- Very fast response time
- Excellent clamping capability
- Pb-free plated

DO-41



MECHANICAL DATA

- Case: DO-41 molded plastic over a passivated junction
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-750, method 2026 guranteed
- Polarity: Color band denotes TVS cathode end
- Mounting position: Any

RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbol	ZD	DI	UNIT
Peak power dissipation with a 10/1000μs waveform	P_{PPM}	200	-	Watts
Maximum Reverse Voltage	V_{RM}	145	600	V
Peak Surge Reverse Current	I_{RSM}	0.75	-	A
Movement Start Voltage	V_{BR}	155-185	-	V
Maximum Restriction Voltage @ I_{PP}=0.75A	V_{CL}	280	-	V
Maximum Leak Current	I_R	5		μA
Reverse Recovery Time	Trr	-	<500	ns
Operating junction and storage temperature range	T_J, T_{STG}	–55~150		°C
Maximum Thermal Resistance	Θ_{JL}	20		°C/W

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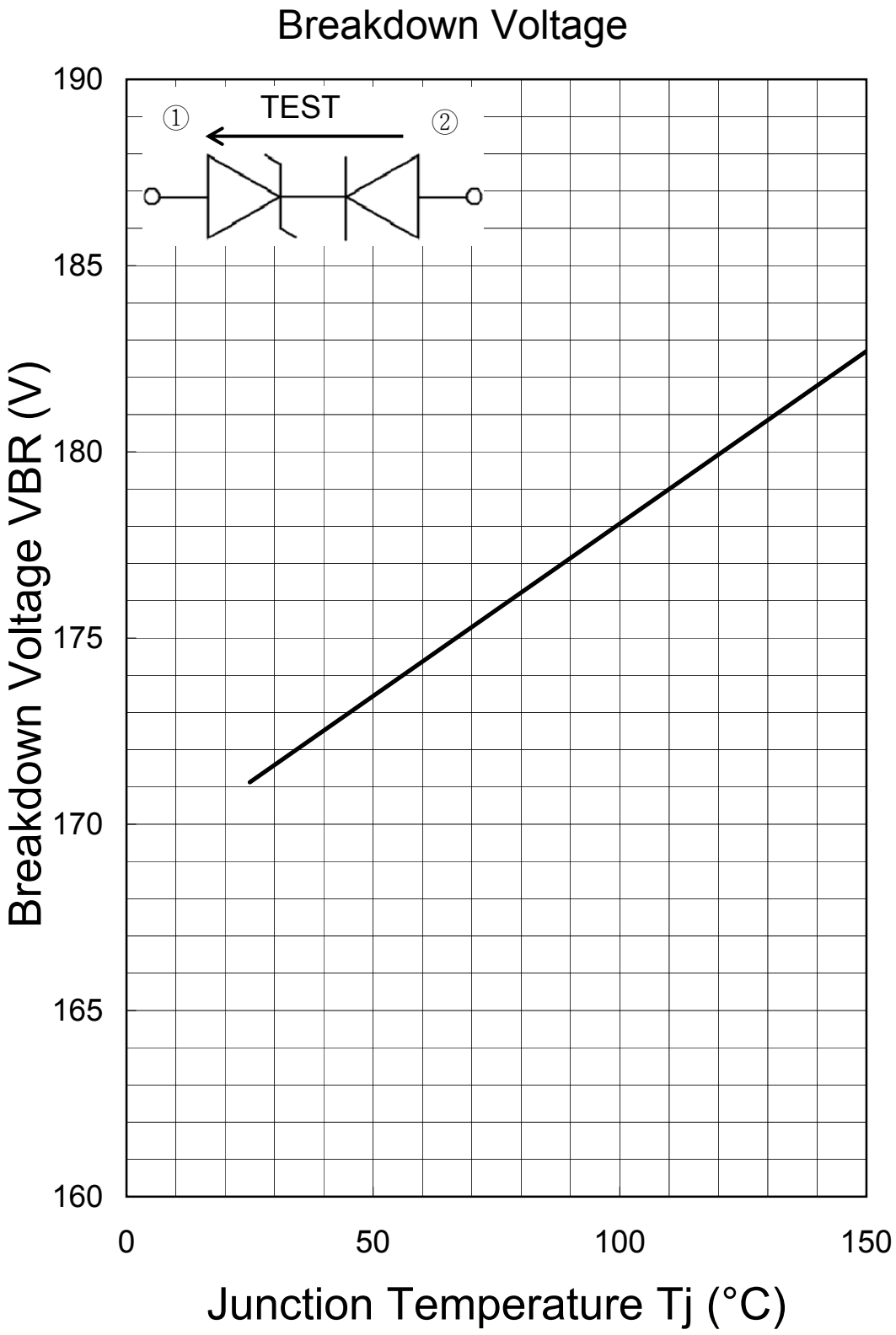
AT02P-170



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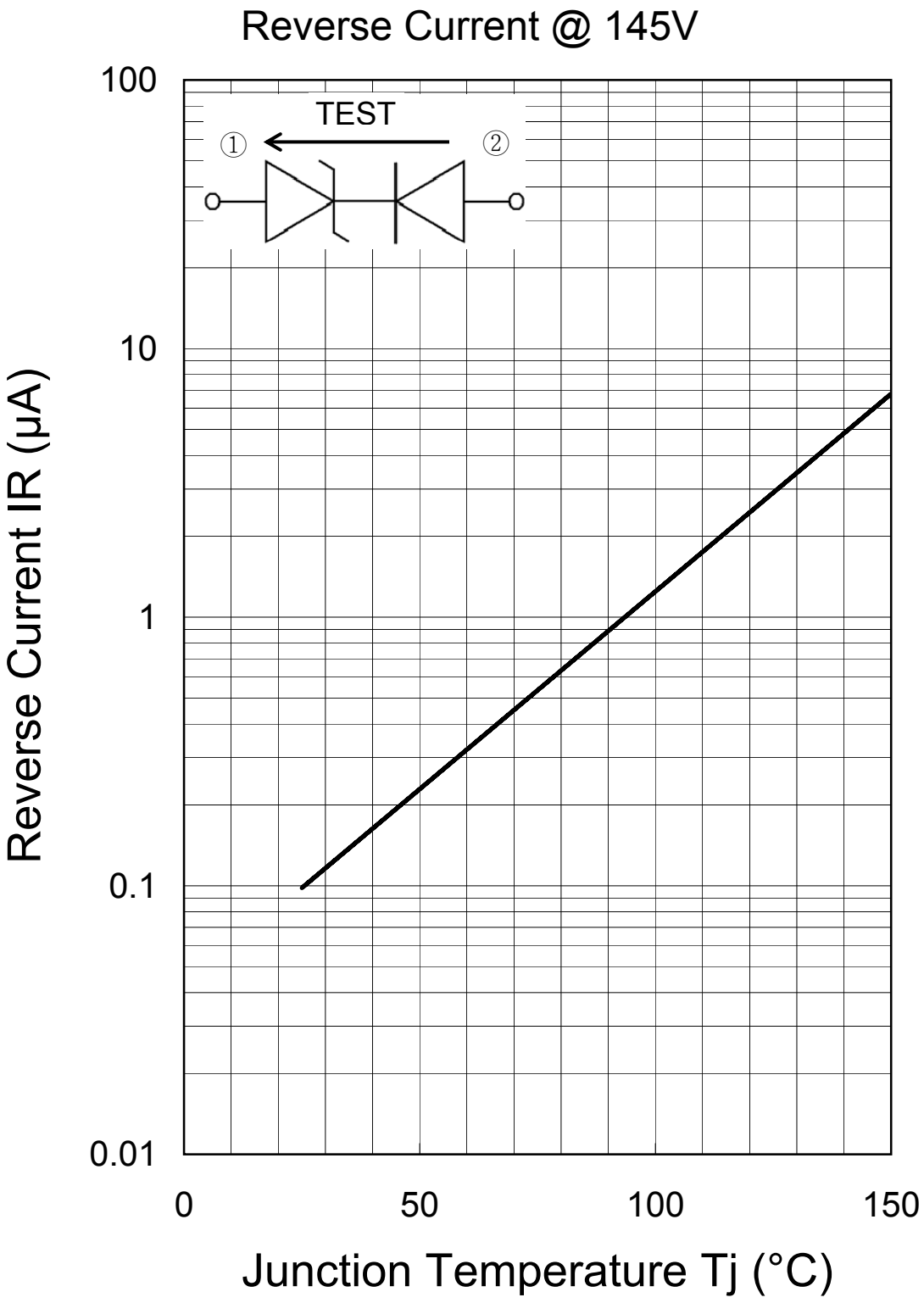
AT02P-170



ANOVA

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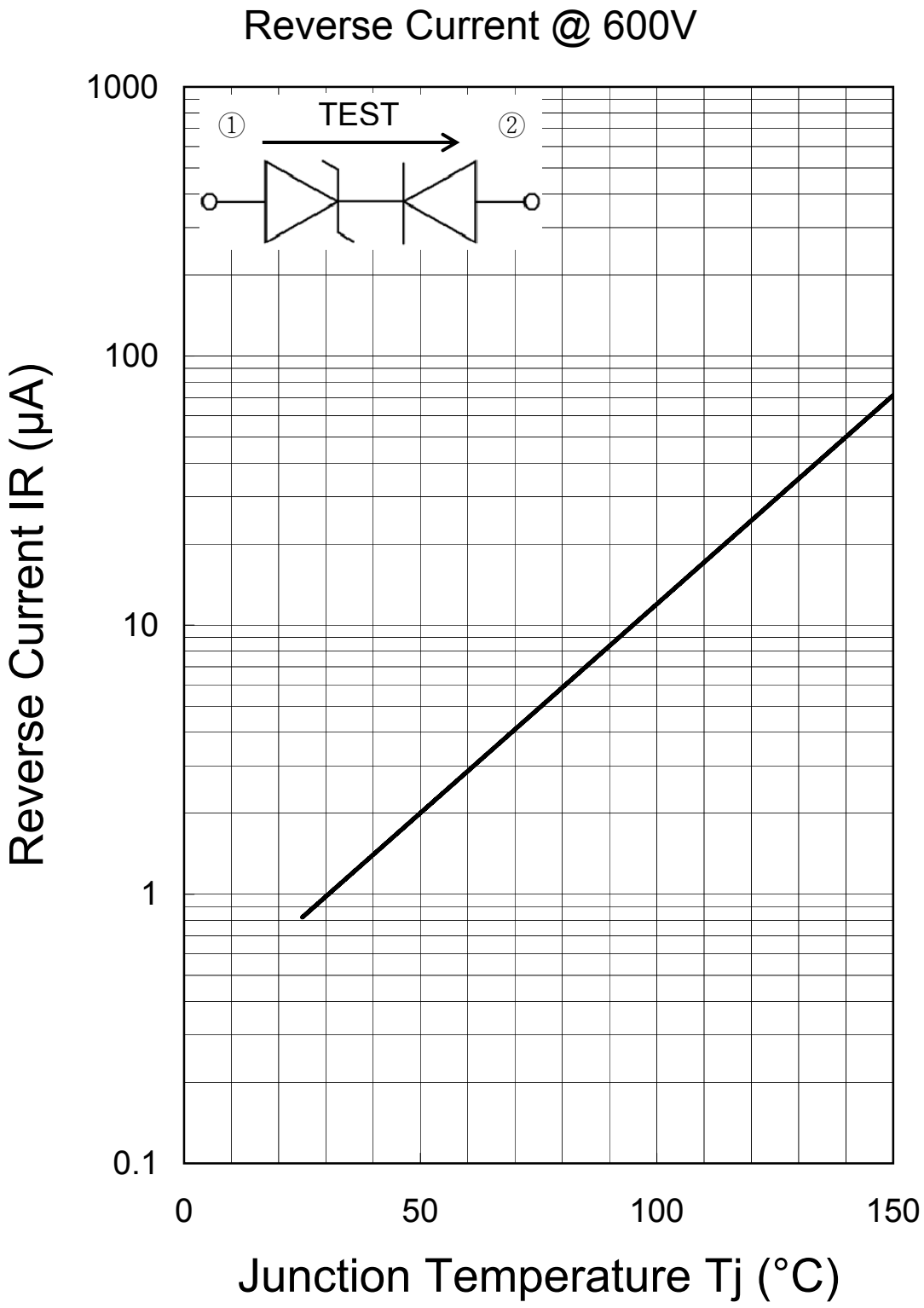
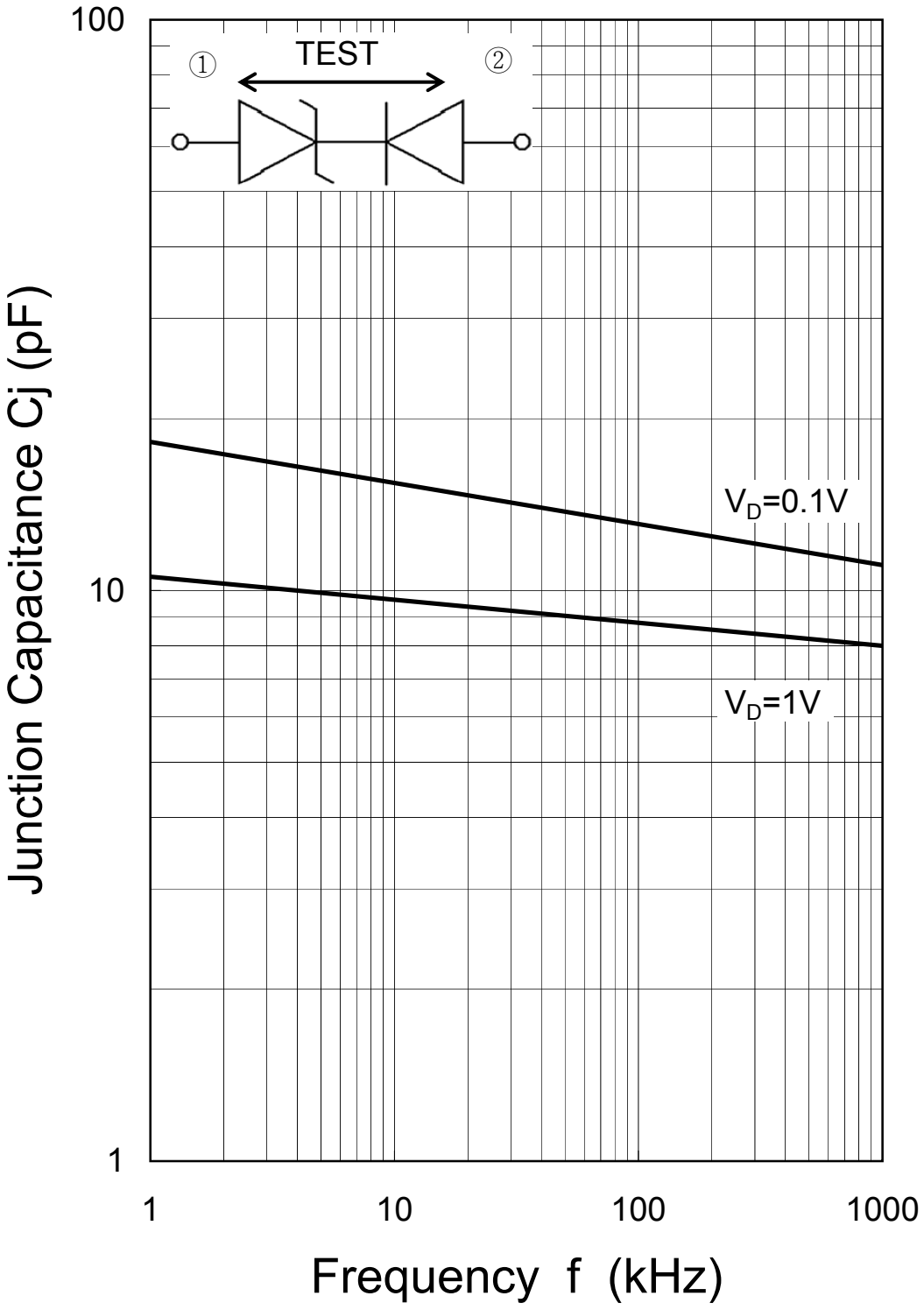


AT02P-170

Junction Capacitance



200 Watt Axial Lead Transient Voltage Suppressor

AT02P-200

Peak Pulse Power 200Watts

Glass Passivated
Low Capacitance
Transient Voltage Suppressors

FEATURES

- RoHS Compliant
- Glass passivated chip junction
- 200W Peak Pulse Power capability on 10/1000μS waveform
- Low leakage
- Fast response time
- Excellent clamping capability
- Pb-Free plated

Mechanical Specifications:

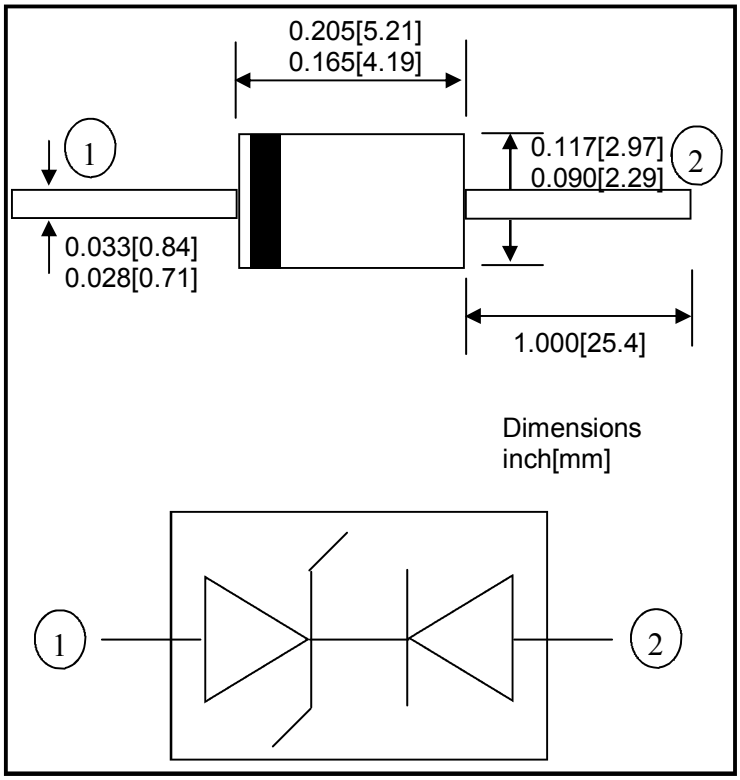
- Weight:0.31 gram
- Case:Molded plastic over glass passivated junction
- Mounting Position:Any
- Polarity:Color band denotes positive end (cathode)except Bipolar
- Expoly:UL 94 V-0 rate flame Retardant
- Lead:Axial Leads,solderable per MIL-STD-202,method 208 guranteed

Ordering Information:

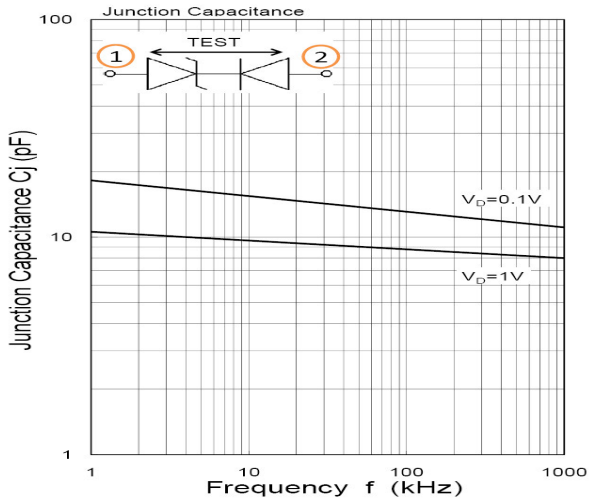
AT [ ][ ]P-[ ][ ][ ]-[ ][ ]

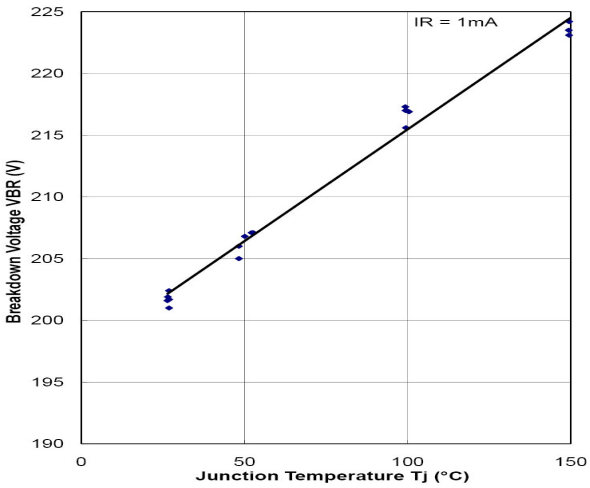
Power
Voltage
Packaging Option
B=Bulk TB=Tape TR=Reeled

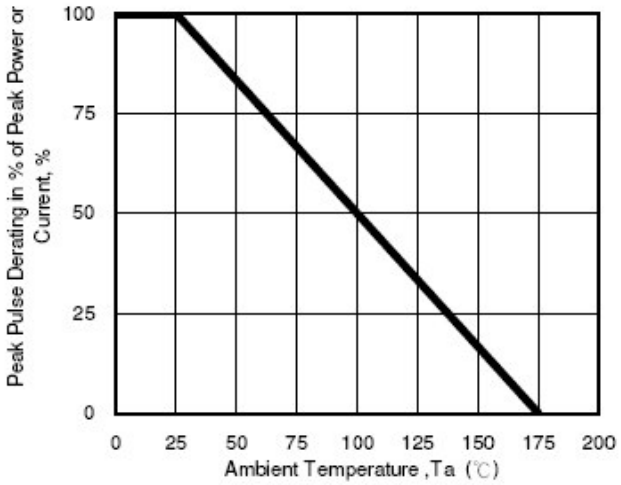
Case Style:DO-41

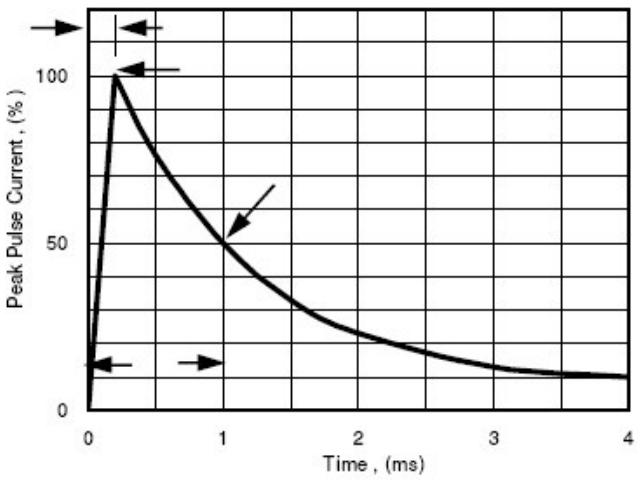


Parameter	Symbol	ZD	DI	UNIT
Peak power dissipation with a 10/1000μs waveform	P_{PPM}	200	-	Watts
Maximum Reverse Voltage	V_{RM}	170	600	V
Peak Surge Reverse Current	I_{RSM}	0.7	-	A
Movement Start Voltage	V_{BR}	185-215	-	V
Maximum Restriction Voltage @ I_{PP}=0.75A	V_{CL}	300	-	V
Maximum Leak Current	I_R	5		μA
Reverse Recovery Time	Trr	-	<500	ns
Operating junction and storage temperature range	T_J, T_{STG}	- 55~150		˚C


Junction Capacitance
TEST
1
2
V_D=0.1V
V_D=1V
Junction Capacitance Cj (pF)
100
10
1
1
10
100
1000
Frequency f (kHz)


IR = 1mA
Breakdown Voltage VBR (V)
225
220
215
210
205
200
195
190
0
50
100
150
Junction Temperature Tj (°C)


Peak Pulse Derating in % of Peak Power or Current, %
100
75
50
25
0
0
25
50
75
100
125
150
175
200
Ambient Temperature ,Ta (℃)


Peak Pulse Current , (%)
100
50
0
0
1
2
3
4
Time , (ms)

Material Safety Data Sheet

Construction Element	Substance N/Ame	Material Group	CAS no.	Substance Mass (mg)	% of Weight (%)	ppm of Total Weight
Copper Lead 82.43%	**Copper Alloy**	Copper (Cu)	7440-44-0	257.9484	>99.98	824116.3
		Total		258.00		
Solder 0.16%		Lead (Pb)	7439-92-1	0.4625	92.50	1477.6
		Tin (Sn)	7440-31-5	0.0250	5.00	79.9
		Silver (Ag)	7440-22-4	0.0125	2.50	39.9
		Total		0.50		
Dice 0.48%	**Silicon Die**	Silicon (Si)	7440-21-3	1.4895	99.35	4760.3
		Lead (Pb)	7439-92-1	0.0090	0.60	28.8
		Nickel (Ni)	7440-02-0	0.0008	0.05	2.4
		Total		1.50		
Molding Compound 16.61%	**Epoxy Resin**	silica	14808-60-7	36.3884	70.00	116293.9
		Sb2O3	1309-64-4	0.5198	1.00	1661.3
		epoxy resin	29690-82-2	12.9958	25.00	41533.5
		phenolic resin	9003-35-4	2.0793	4.00	6645.4
		Total		52.00		
Lead Finishing 0.32%	**Free Pb**	Tin (Sn)	7440-31-5	1.0000	100.00	3194.9
		Total		0.90		
		Total mass (mg)		312.90		

Remark: the substance material breakdown list (wt% in material) just for customer reference.

Soldering Of Axial Lead

■For Lead-Free solder,the maximum temperature during mounting processes will be 260℃ for both Re-flow and flow soldering processes.