



BZT52-T Series

150mW Surface Mount Zener Diodes - 2.4V - 75V



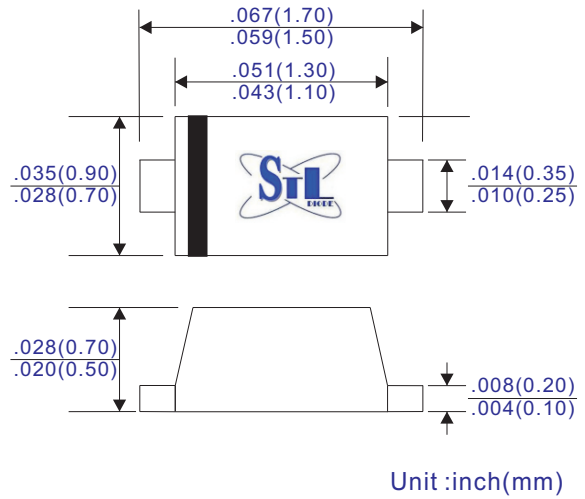
FEATURES

- For use as low voltage stabilizer or voltage reference
- Silicon epitaxial planar chip structions
- Also available in SOT-23 as BZX84 series, SOD-123 as BZT52 series, SOD-323 as BZT52-S series, SOT-323 as BZX84-W series, SOT-523 as BZX84-T series and SOD-80 as BZV55 series.
- Standard regulaion tolerance is $\pm 5\%$ with suffix "C", place suffix "C" with "B" for $\pm 2\%$
- Ultra small surface mounting type
- Lead-free parts for green partner

MECHANICAL DATA

- Case: Molded plastic SOD-523 case
- Epoxy: UL94-V0 rated flame retardant
- Terminals: Solderable per MIL-STD-202 Method 208
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.00165 grams

SOD-523

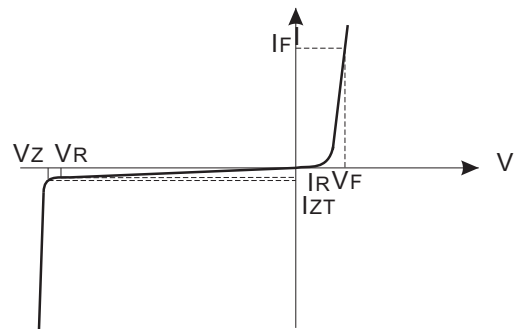


MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS
 Ratings at 25°C ambient temperature unless otherwise specified

	Symbols	BZT52-T Series	Units
Power Dissipation, Note 1	P _d	150	mW
Operating Junction Temperature Range	T _J	-65 ~ +150	°C
Thermal Resistance, junction to ambient, Note 2	R _{θJA}	833	°C/W
Storage Temperature Range	T _{STG}	-65 ~ +150	°C
Forward Voltage at I _F =10mA	V _F	0.9	Volt

Note 1. Device on fiberglass substrate
 2. Valid provided that electrodes are kept at ambient temperature

- V_Z: Reverse Zener Voltage @ I_{ZT}
- I_{ZT}: Reverse Current
- Z_{ZT}: Maximum Zener Impedance @ I_{ZT}
- I_{ZK}: Reverse Current
- Z_{ZK}: Maximum Zener Impedance @ I_{ZK}
- I_R: Reverse Leakage Current @ V_R
- V_R: Reverse Voltage
- I_F: Forward Current
- V_F: Forward Voltage @ I_F



Zener Voltage Regulation



MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

Part No.	Electical Characteristics (Ta=25°C)								Temp. Coefficient	
	Vz(Min) (V)	Vz(Max) (V)	IzT (mA)	ZzT (Ω)	IzK (mA)	ZzK (Ω)	IR(μA) Max.		at IzT (%/K)	
							VR(V)	VR(V)	Min.	Max.
BZT52-C2V4T	2.20	2.60	5.0	100	1.0	600			50	1
BZT52-C2V7T	2.50	2.90	5.0	100	1.0	500	20	1	-0.09	-0.04
BZT52-C3V0T	2.80	3.20	5.0	95	1.0	500	10	1	-0.09	-0.03
BZT52-C3V3T	3.10	3.50	5.0	95	1.0	500	5	1	-0.08	-0.03
BZT52-C3V6T	3.40	3.80	5.0	90	1.0	500	3	1	-0.08	-0.03
BZT52-C3V9T	3.70	4.10	5.0	90	1.0	500	3	1	-0.07	-0.03
BZT52-C4V3T	4.00	4.60	5.0	90	1.0	500	3	1	-0.06	-0.01
BZT52-C4V7T	4.40	5.00	5.0	80	1.0	500	2	2	-0.05	+0.02
BZT52-C5V1T	4.80	5.40	5.0	60	1.0	480	1	2	-0.03	+0.04
BZT52-C5V6T	5.20	6.00	5.0	40	1.0	400	3	2	-0.02	+0.06
BZT52-C6V2T	5.80	6.60	5.0	10	1.0	200	2	4	-0.01	+0.07
BZT52-C6V8T	6.40	7.20	5.0	15	1.0	150	1	4	+0.02	+0.07
BZT52-C7V5T	7.00	7.90	5.0	15	1.0	50	0.7	5	+0.03	+0.07
BZT52-C8V2T	7.70	8.70	5.0	15	1.0	50	0.5	5	+0.04	+0.07
BZT52-C9V1T	8.50	9.60	5.0	15	1.0	50	0.2	6	+0.05	+0.08
BZT52-C10T	9.40	10.60	5.0	20	1.0	70	0.1	7	+0.05	+0.08
BZT52-C11T	10.40	11.60	5.0	20	1.0	70	0.1	8	+0.05	+0.09
BZT52-C12T	11.40	12.70	5.0	25	1.0	90	0.1	8	+0.06	+0.09
BZT52-C13T	12.40	14.10	5.0	30	1.0	110	0.05	8	+0.07	+0.09
BZT52-C15T	13.80	15.60	5.0	30	1.0	110	0.05	10	+0.07	+0.09
BZT52-C16T	15.30	17.10	5.0	40	1.0	170	0.05	11	+0.08	+0.095
BZT52-C18T	16.80	19.10	5.0	45	1.0	170	0.05	13	+0.08	+0.095
BZT52-C20T	18.80	21.20	5.0	55	1.0	220	0.05	14	+0.08	+0.1
BZT52-C22T	20.80	23.30	5.0	55	1.0	220	0.05	15	+0.08	+0.1
BZT52-C24T	22.80	25.60	5.0	70	1.0	220	0.05	17	+0.08	+0.1
BZT52-C27T	25.10	28.90	5.0	80	1.0	250	0.05	19	+0.08	+0.1
BZT52-C30T	28.00	32.00	5.0	80	1.0	250	0.05	21	+0.08	+0.1
BZT52-C33T	31.00	35.00	5.0	80	1.0	250	0.05	23	+0.08	+0.1
BZT52-C36T	34.00	38.00	5.0	90	1.0	250	0.05	25	+0.08	+0.1
BZT52-C39T	37.00	41.00	5.0	130	1.0	300	0.05	27	+0.1	+0.12
BZT52-C43T	40.00	46.00	5.0	150	1.0	700	0.05	30	+0.1	+0.12
BZT52-C47T	44.00	50.00	5.0	170	1.0	750	0.05	33	+0.1	+0.12
BZT52-C51T	48.00	54.00	5.0	180	1.0	750	0.05	36	+0.1	+0.12
BZT52-C56T	52.00	60.00	2.5	135	1.0	1000	0.05	39	+0.1	+0.1
BZT52-C62T	58.00	66.00	2.5	150	1.0	1000	0.05	43	+0.1	+0.1
BZT52-C68T	64.00	72.00	2.5	200	1.0	1000	0.05	48	+0.1	+0.1
BZT52-C75T	70.00	79.00	2.5	250	1.0	1000	0.05	53	+0.1	+0.1

* The type number listed have zener voltages minimum & maximum limits as shown and have a standard tolerance on the nominal zener voltage 2%



Fig. 1A - Zener Voltage vs Zener Current Curve

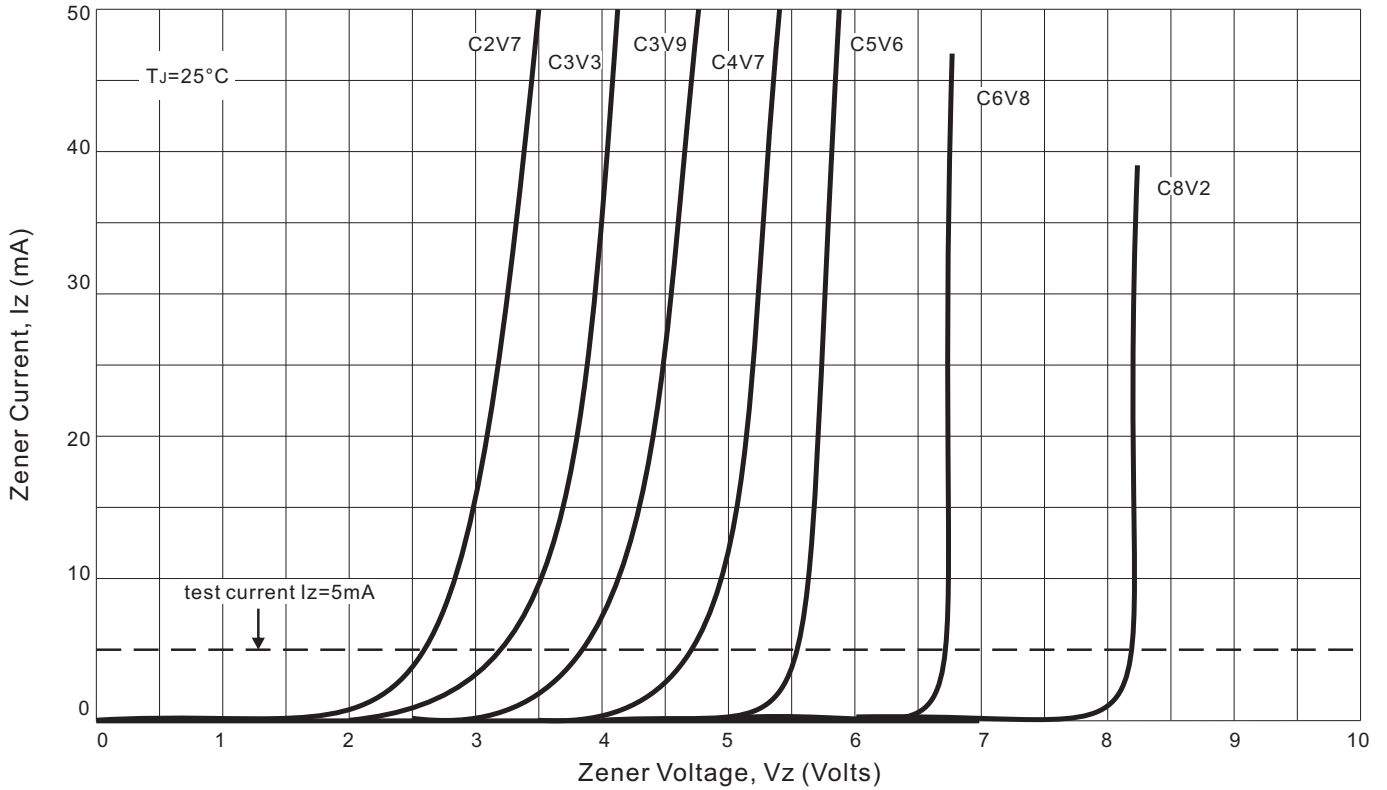


Fig. 1B - Zener Voltage vs Zener Current Curve

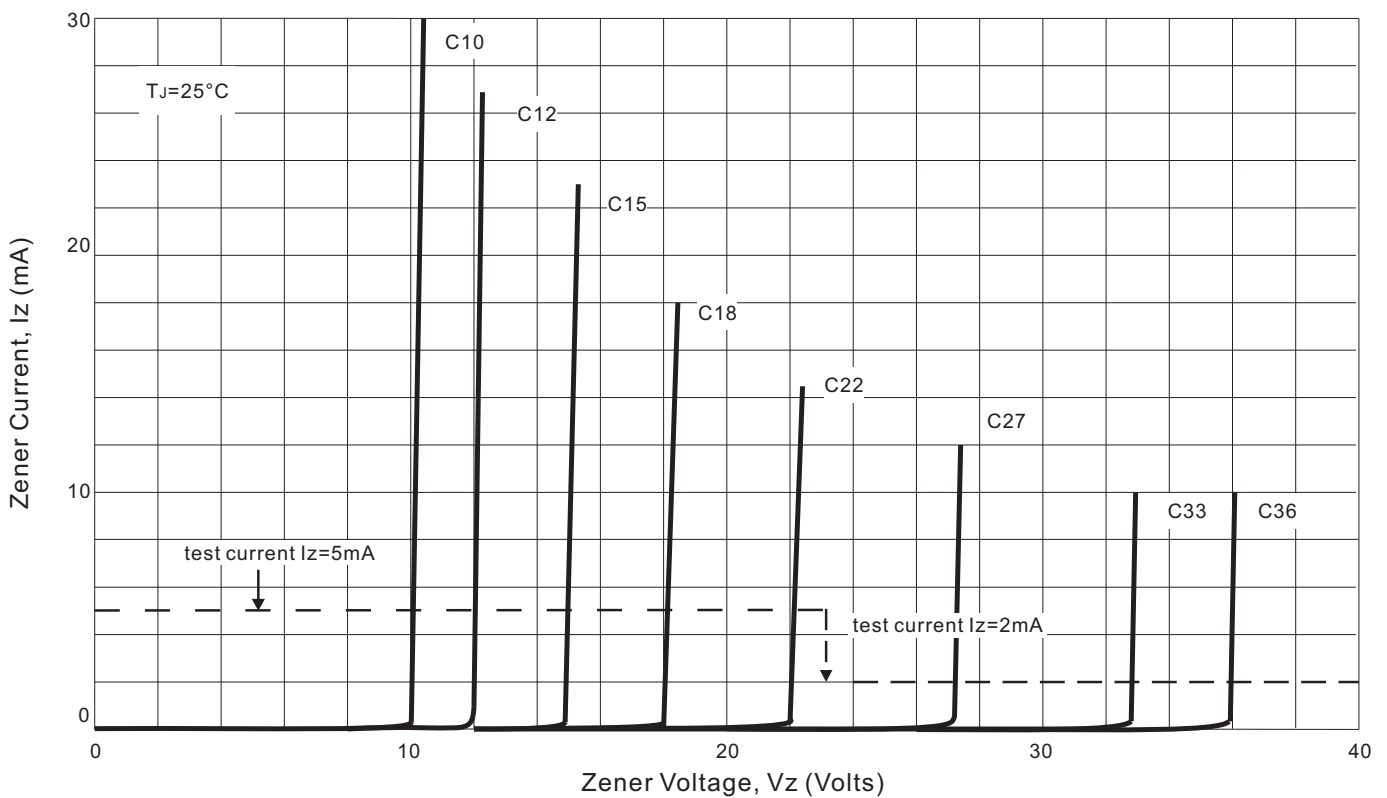




Fig. 1C - Zener Voltage vs Zener Current Curve

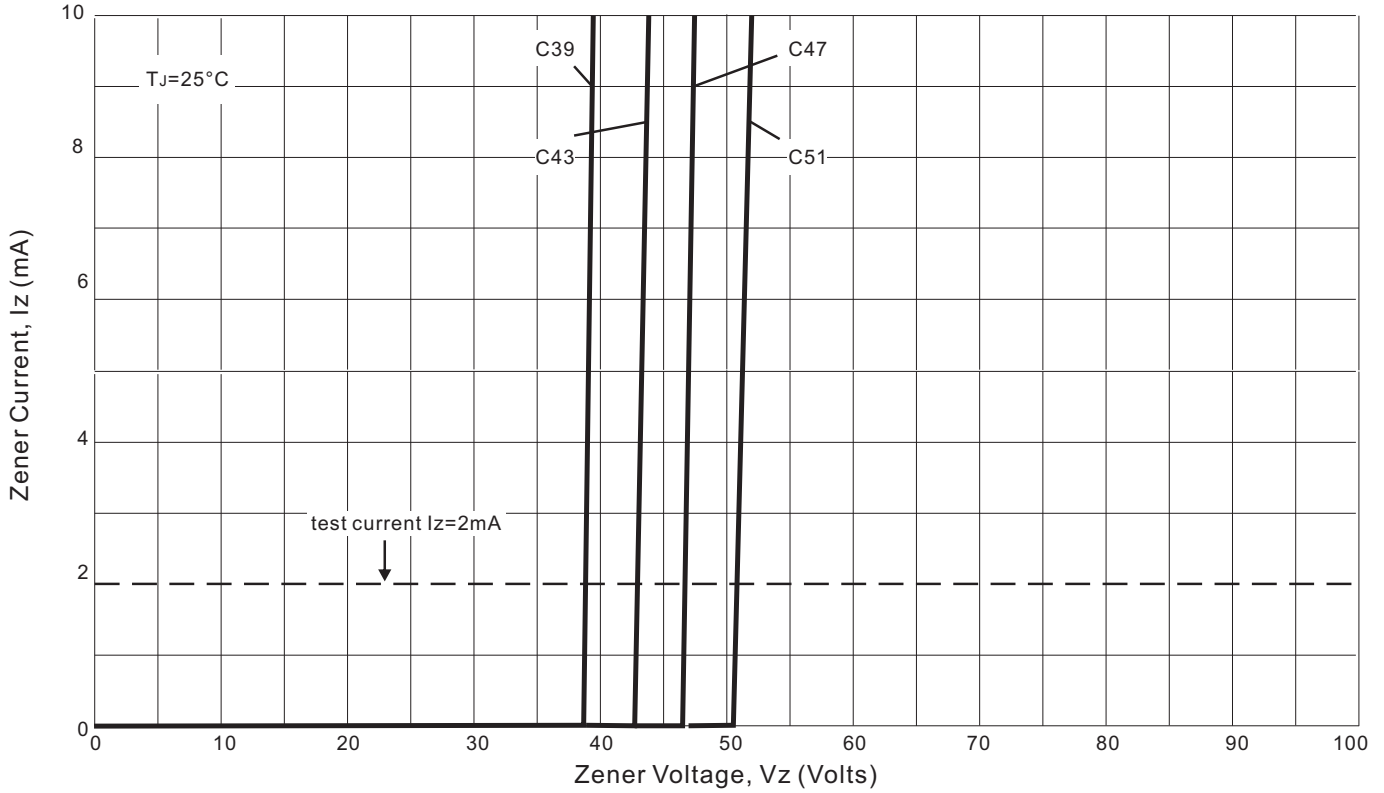


Fig. 2A - Dynamic Resistance Curve

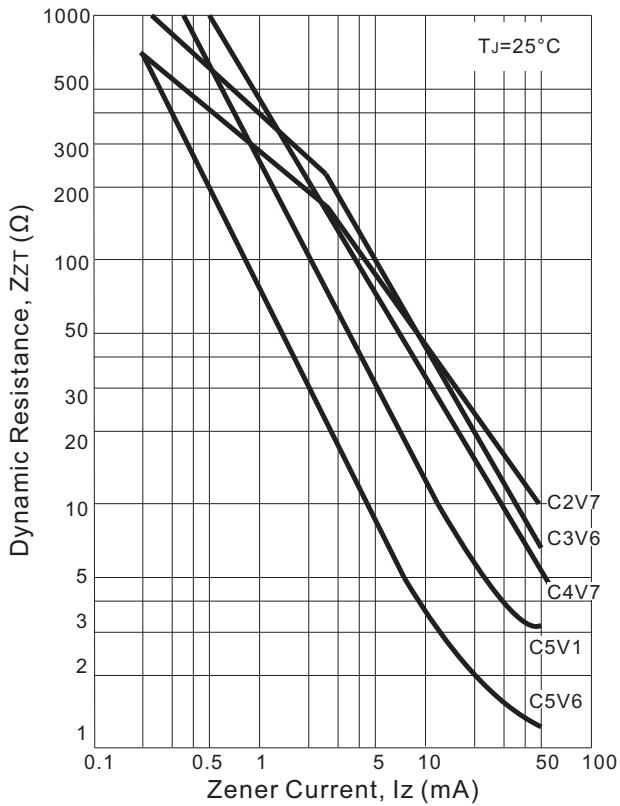


Fig. 2B - Dynamic Resistance Curve

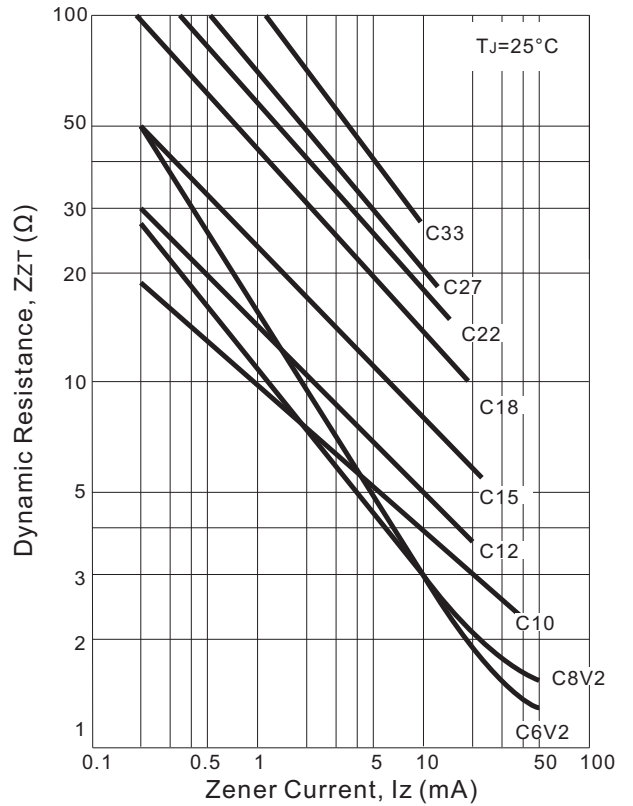




Fig. 3 - Power Dissipation Derating Curve

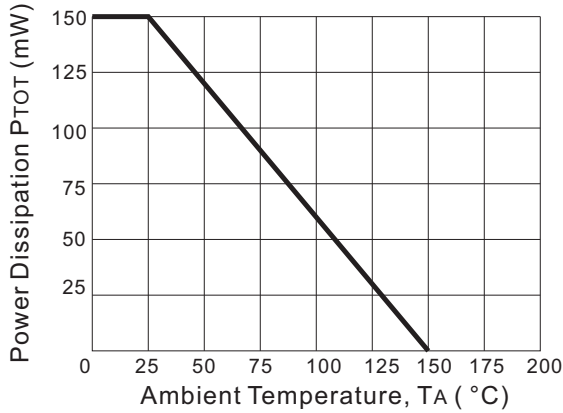


Fig. 4 - Change of Zener Voltage Curve

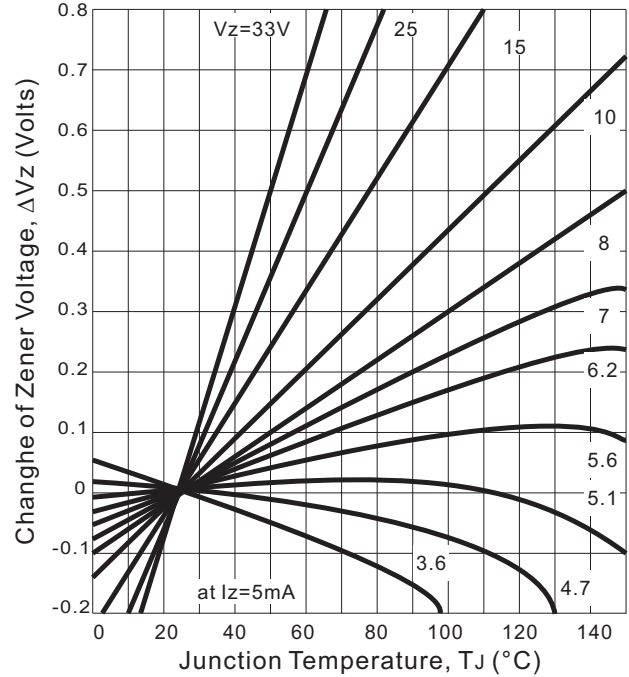


Fig. 5 - Capacitance Curve

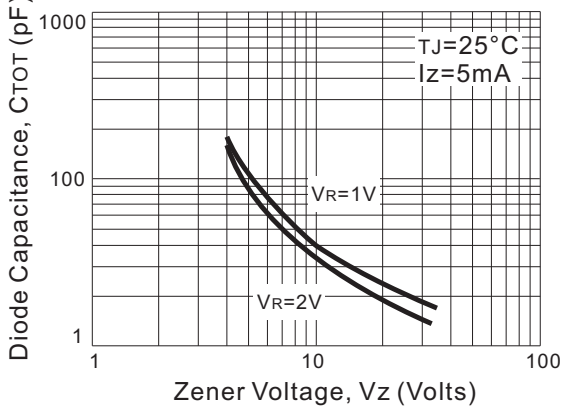


Fig. 7 - Pulse Thermal Resistance curve
 Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case

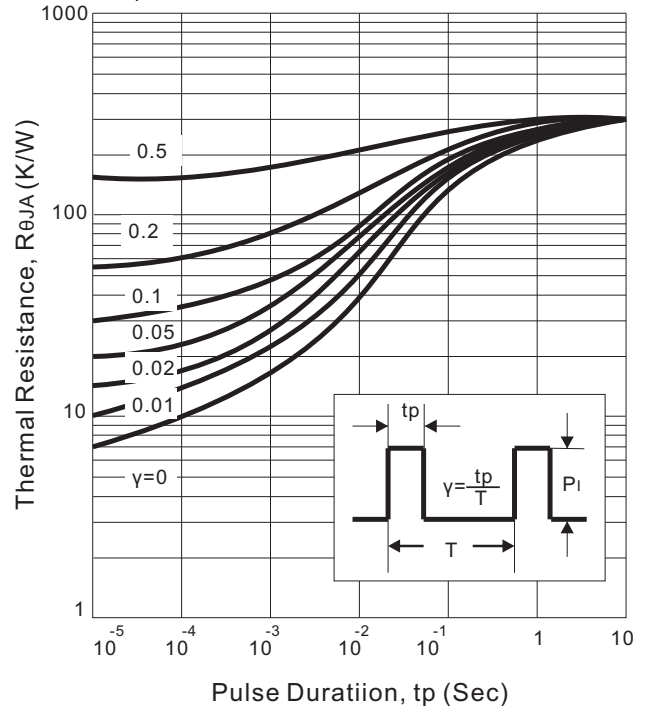


Fig. 6 - Dynamic Resistance Curve

