

## Automotive SAD(Surge Absorber Diode)

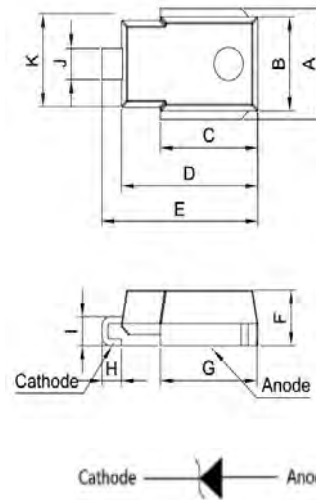
### Features

- High surge power withstanding capabilities that absorb load dump surge.
- Low leakage current
- Low forward voltage drop
- Available in uni-directional polarity only
- RoHS compliant
- AEC-Q101 Qualified

### Applications

- Suitable to protect sensitive automotive circuit against surges and against load Dump surge
- Electronic system for use in automobile
- Electronic system for industrial use
- Electronic system for commercial use
- For communication, controls, measuring, instruments, etc.

### DO-218



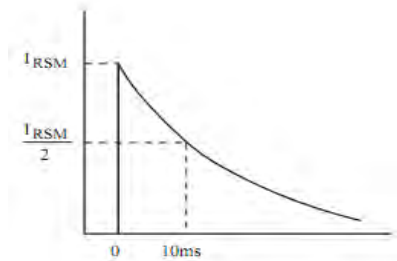
Dim.	mm
A	9.5-10.5
B	8.3-8.7
C	9.7-10.3
D	13.8-14.2
E	15.5-16.5
F	4.8-5.0
G	8.7-9.3
H	1.5-2.5
I	2.5-3.0
J	2.5-3.0
K	7.7-7.9

Package Outline Dimensions in Millimeters

### MAXIMUM RATING (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Allowable Power Dissipation (Note1)	P	5	W
Peak pulse power dissipation with 10/1,000us waveform	PPPM	3,600	W
Peak pulse power dissipation with 10/10,000us waveform	PPPM	2,800	W
Non-Repetitive Peak Reverse Surge Current (See Fig.1 for the exponents.)	$I_{RSM}$	70	A
Operate Junction Temperature	$T_j$	-55~175	°C
Storage Temperature Range	$T_{stg}$	-55~175	°C

Note 1: Lead tip temperature  $T_L=25^\circ\text{C}$



### ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Breakdown Voltage	$V_Z$	$I_Z=10\text{mA}$	24	27	30	V
Operating Resistance	$r_d$	$I_Z=10\text{mA}$	-	-	30	$\Omega$
Temperature Coefficient	$\alpha_T$	$I_Z=10\text{mA}$	-	23	36	mV/°C
Forward Voltage Drop	$V_F$	$I_F=6\text{A}$	-	-	1.0	V
		$I_F=100\text{A}$	-	-	1.2	V
Reverse Leakage Current	$I_R$	$V_R=22\text{V}$	-	-	10	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{RSM}=55\text{A}$	-	-	40	V

## RATINGS AND CHARACTERISTICS CURVES (TA=25°C unless otherwise noted)

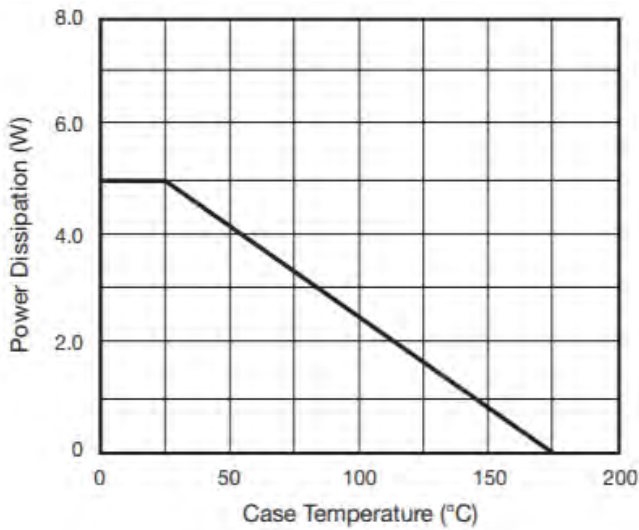


Fig. 1 - Power Derating Curve

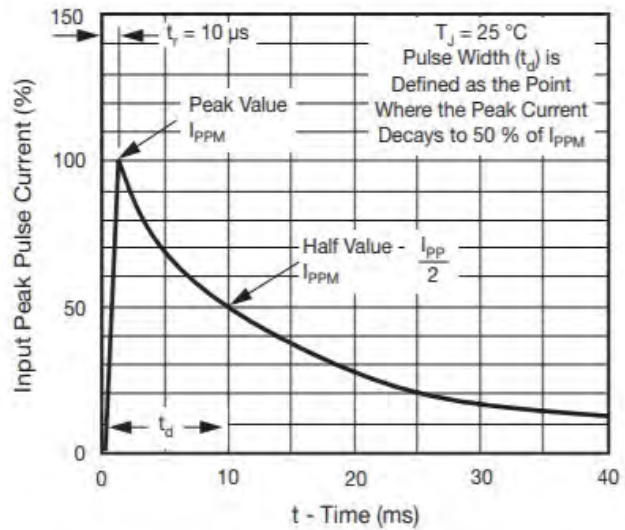


Fig. 3 - Pulse Waveform

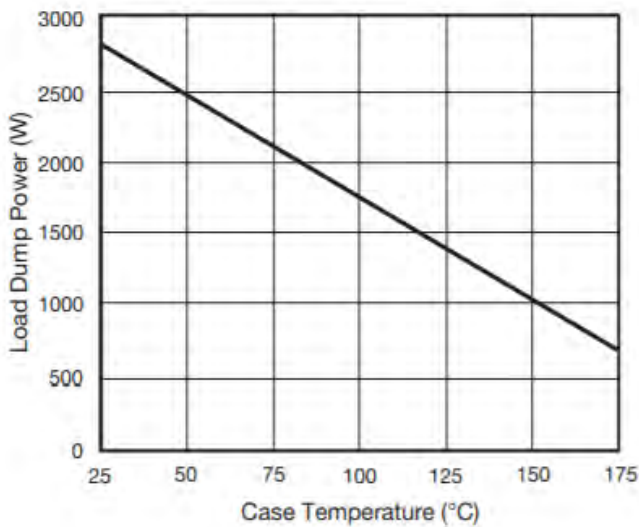


Fig. 2 - Load Dump Power Characteristics (10 ms Exponential Waveform)

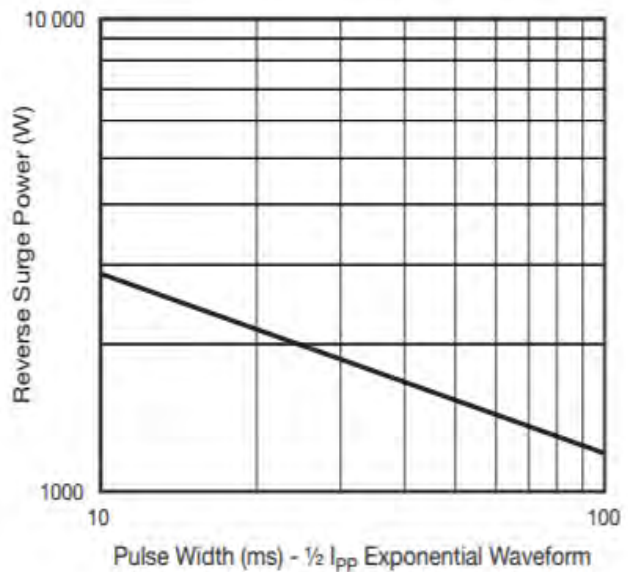


Fig. 4 - Reverse Power Capability

P - T<sub>L</sub>, T<sub>a</sub>

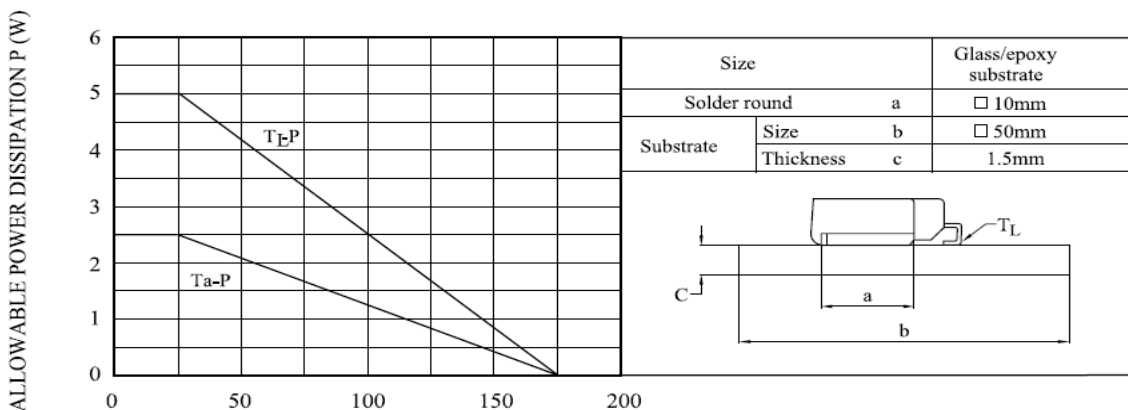
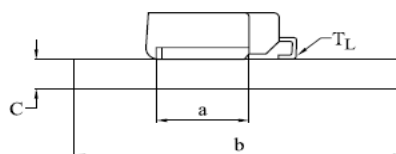


Fig.5- LEAD TEMPERATURE T<sub>L</sub>, AMBIENT TEMPERATURE T<sub>a</sub> (°C)

Size		Glass/epoxy substrate
Solder round	a	□ 10mm
Substrate	Size	□ 50mm
	Thickness	1.5mm



## RATINGS AND CHARACTERISTICS CURVES (Con.)

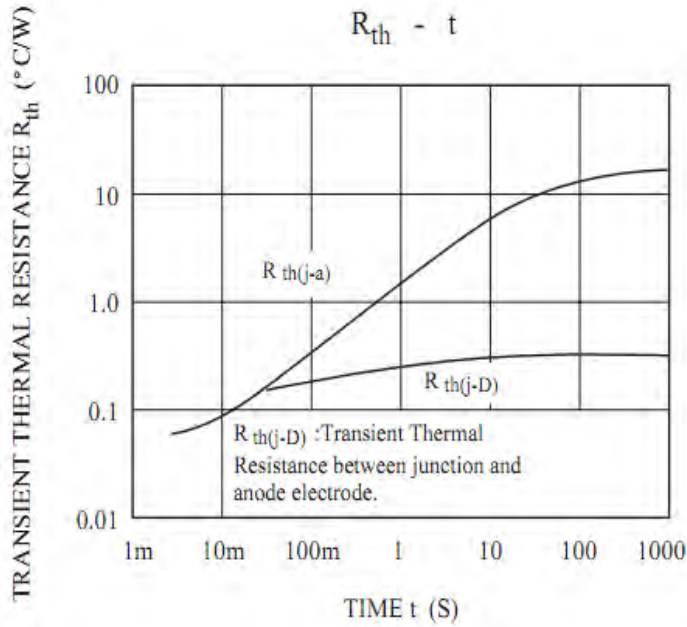


Fig.6 –Typical Transient Impedance

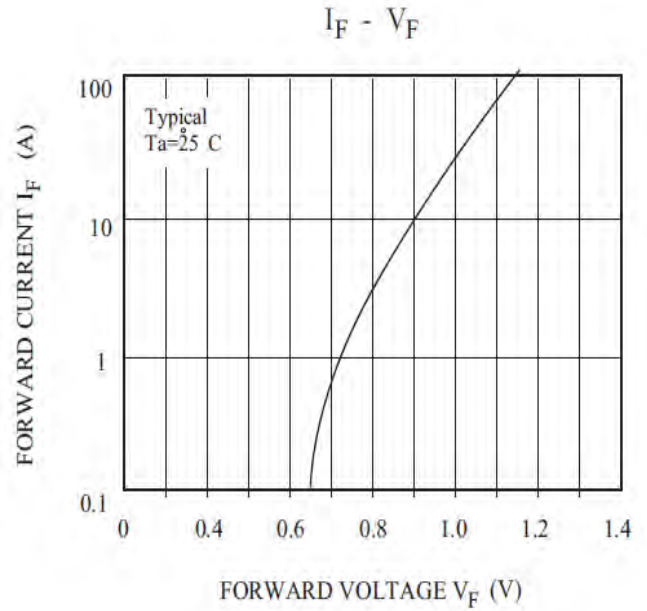


Fig. 7-Typical Forward Voltage