

**Surface Mount Load Dump Transient Voltage Suppressors**

**REVERSE VOLTAGE - 36 Volts**  
**PEAK PULSE POWER - 6600 Watt**

**FEATURES**

- High current capability
- Low Forward Voltage Drop
- Low reverse current
- Low thermal resistance
- Excellent high temperature stability
- Low power loss and high efficiency
- High forward surge capability
- Meet ISO7637-2 and ISO16750-2 surge specification (varied by test condition)
- Meet MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- PPAP capable

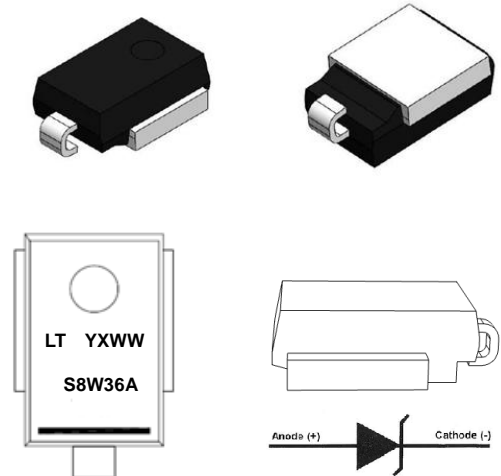
**APPLICATION**

- High peak power
- High-temperature
- Clamping diode
- Load switching and lighting
- Use in sensitive electronics protection against voltage transients induced by inductive automotive ECU module, especially for automotive load dump protection application

**MECHANICAL DATA**

- **Case:** DO-218 outline plastic package
- **Terminals:** Matte tin plated, solderable per MIL-STD-750, Method 2026, J-STD-002 and JESD 22-B102
- Molding Compound Flammability Rating:UL94-0
- High temperature soldering guaranteed: 260°C/10second
- **Polarity:** Heatsink is anode
- Corresponds to taping packages. (700PCS/Reel)

**DO-218**



**Primary Characteristics**

VWM	36 V
VBR	44.2V
PPPM (10 x 1000 uS)	6600 W
PPPM (10 x 10 000 uS)	5200 W
IFSM	700 A
Polarity	Uni-directional
Diode variation	Single

<b>Maximum Ratings</b> (TA = 25 °C unless otherwise noted)				
Parameter		Symbol	Value	Units
Peak pulse power dissipation	10/1000 $\mu$ s waveform	PPPM	6600	W
	10/10000 $\mu$ s waveform		5200	
Peak forward surge current 8.3 ms single half sine-wave		IFSM	700	A
Operating junction and storage temperature range		TJ, TSTG	-55 to +175	°C

<b>Electrical Characteristics</b> (TA = 25 °C unless otherwise noted)								
Part Number	Breakdown Voltage VBR (V)		Test Current IT (mA)	Stand-OFF Voltage VWM (V)	Maximum Reverse Leakage at VWM ID (uA)	Maximum Leakage at VWM TJ = 175 °C ID (uA)	Max. Peak Pulse Current at 10/1000 us Waveform (A)	Maximum Clamping Voltage at IPPM Vc (V)
	Min.	Max.						
ALS8W36A	40.0	44.2	5.0	36.0	10	150	114	58.1

**Note:**  $V_F = 1.8$  Vmax at  $I_F = 100$  A measured on 8.3 ms single half sine-wave.

## RATING AND CHARACTERISTIC CURVES ALS8W36A

FIG.1- Power Derating Curve

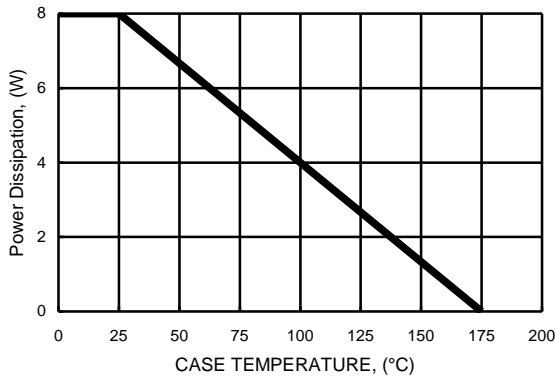


FIG.2- Load Dump Power Characteristics  
(10ms Exponential Waveform)

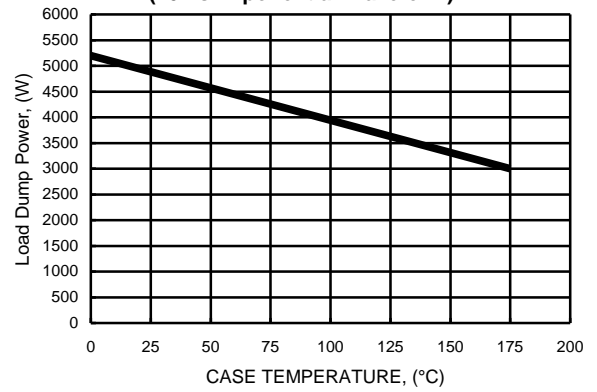


Fig.3 - Pulse Waveform

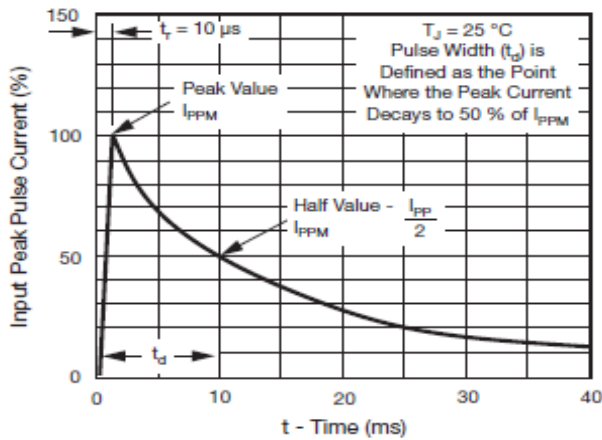


FIG.4- Reverse Power Capability

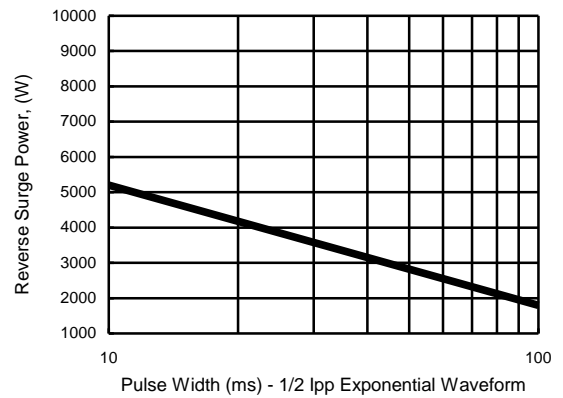


FIG.5- Typical Transient Thermal Impedance

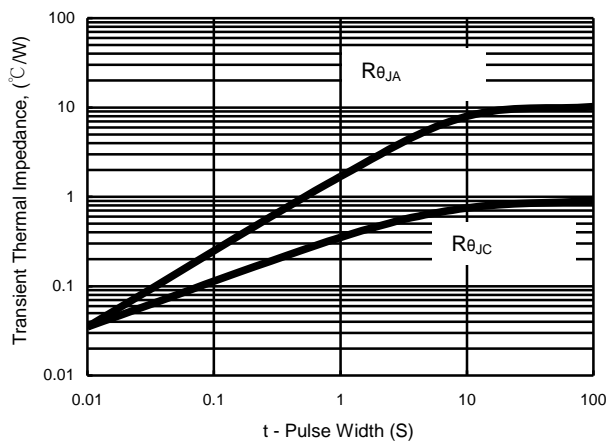
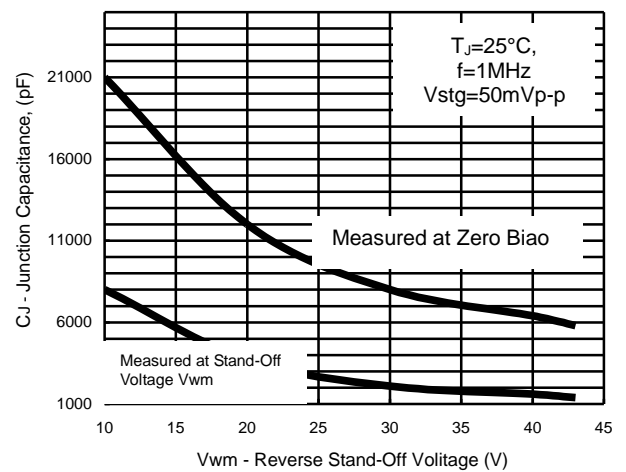
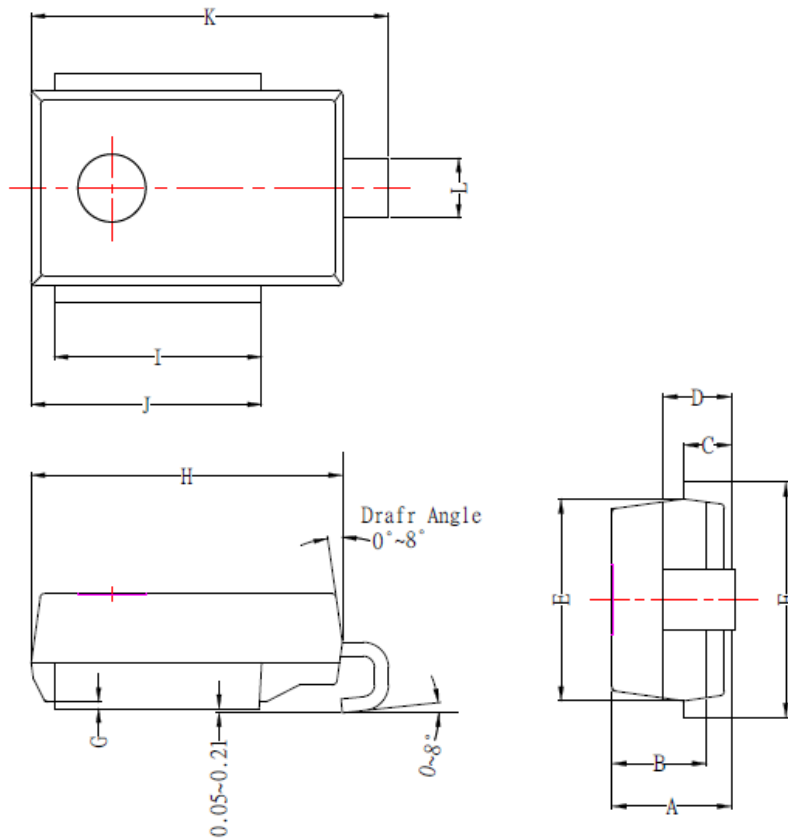


FIG.6- Typical Junction Capacitance

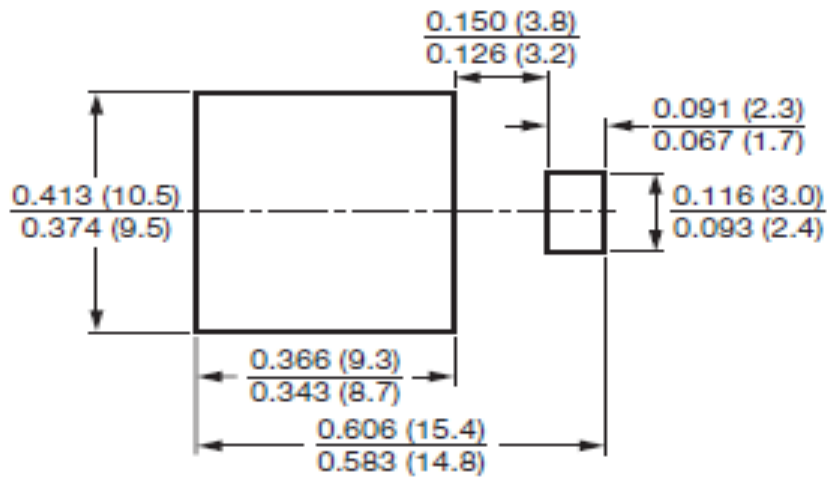


Package Dimension :

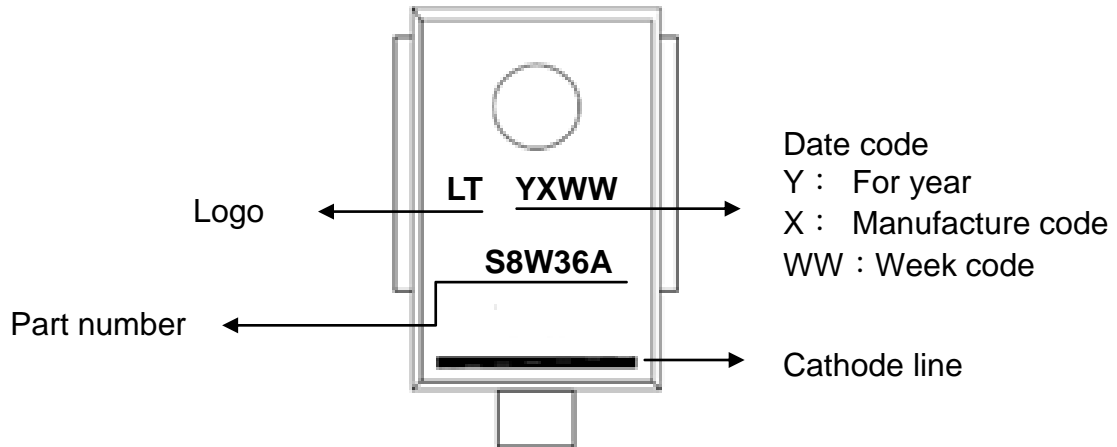


D0-218			
DIM.	MIN.	TYP.	MAX.
A	4.75	5.00	5.25
B	3.66	3.96	4.26
C	1.80	2.00	2.20
D	2.58	2.88	3.18
E	8.20	8.50	8.80
F	9.50	—	10.50
G	—	0.30	—
H	13.20	13.50	13.80
I	8.70	9.00	9.30
J	9.70	10.00	10.25
K	15.00	15.50	16.00
L	2.30	—	3.00
All Dimension in millimeter			

Soldering Pad Layout :



**Marking Information :**



**Packaging Information :**

DEVICE	REEL DIA.	Q'TY/REEL	REEL/BOX	Q'TY/BOX	BOX/CORTON	Q'TY/CORTON	BOX SIZE	CARTON SIZE
	(INCH)	(PCS)	(REEL)	(PCS)	(BOX)	(PCS)	(mm)	(mm)
ALS8W36A	13	700	1	700	7	4900	345*355*43	355*346*376

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