



## Transient Voltage Suppressors family

Transient Voltage Suppressor (TVS) will effectively limit the transient voltage to a safe level. The YSM5W27 series has been designed to protect sensitive automotive circuits against surges defined in ISO7637-2/ISO16750-2 and against electrostatic discharges according ISO10605. The YSM5W27 series device could compatible with high-end circuits where low leakage current and high junction temperature are required to provide reliability and stability over time.

### 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
- Meets ISO7637-2 surge specification
- Meets ISO16750-2 surge specification
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C
- AEC-Q101 qualified

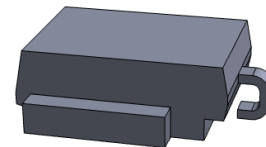
### Application

- High peak power
- High-temperature
- Clamping diode
- Load switching and lighting

### Mechanical Data

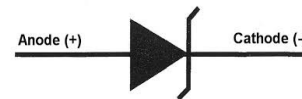
- **Case:** DO-218 outline plastic package
- **Terminals:** Matte tin plated, solderable per MIL-STD-750, Method 2026, J-STD-002 and JESD 22-B102
- Molding Compound Flammability Rating:UL94-0
- HE3 suffix meets JESD 201 class 2 whisker test
- **Polarity:** Heatsink is anode

### DO-218

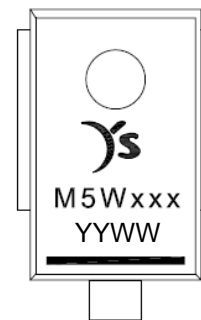


### Pin Information

Polarity: Heatsink is anode



### Marking Information



Primary Characteristics	
VWM	22 V
VBR	27 V
PPPM (10 x 1000 uS)	3600 W
PD	5 W
IFSM	500 A
Polarity	Uni-directional
Diode variation	Single



# Transient Voltage Suppressors

## YSM5W27

YEA SHIN TECHNOLOGY CO., LTD

5 Watters TVS/Power Zener Diode

### Maximum Ratings (TA = 25 °C unless otherwise noted)

Parameter		Symbol	Value	Units
Peak pulse power dissipation	10/1000 $\mu$ s waveform	PPPM	3600	W
Power dissipation on infinite heatsink at TC = 25 °C		PD	5.0	W
Peak forward surge current 8.3 ms single half sine-wave		IFSM	500	A
Operating junction and storage temperature range		TJ, TSTG	-55 to +175	°C

### Electrical Characteristics (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 10/10000 us Waveform (A)	Maximum Clamping Voltage at IPPM Vc (V)
	Min.	Max.						
YSM5W27	24	30	10.0	22.0	0.2	10.0	55	40

**Note:** VF = 0.95V(Typ.) at IF = 100A measured on a 300  $\mu$ s square pulse width.



**Thermal Characteristics** (TA = 25 °C unless otherwise noted)

Parameter	Symbol	Value	Units
Typical thermal resistance, junction to case	$R_{\theta JC}$	1.1	°C/W

**Typical Performance Characteristics**

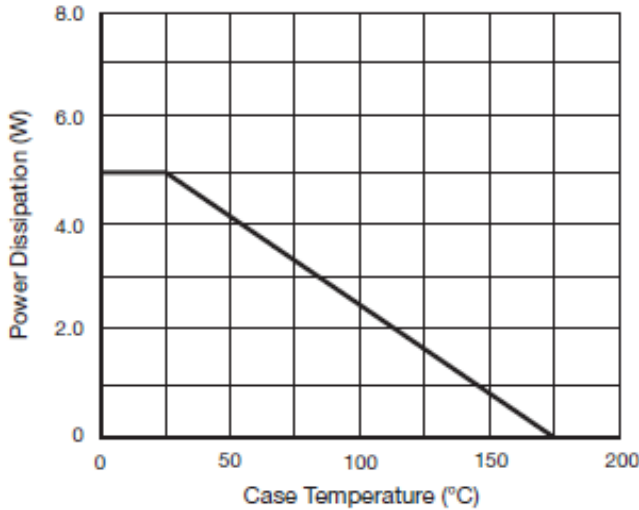


Fig. 1 - Power Derating Curve

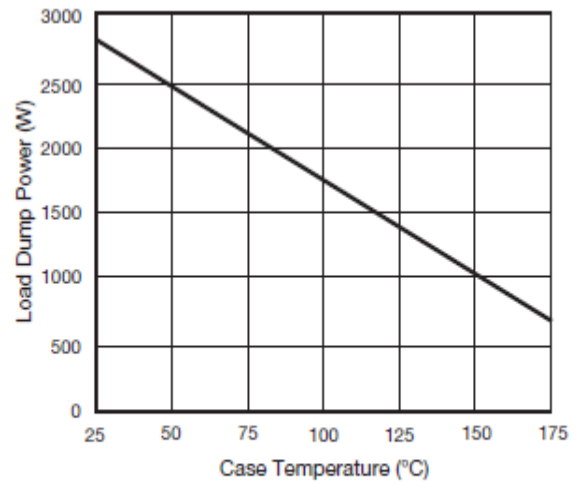


Fig. 2 - Load Dump Power Characteristics (10 ms Exponential Waveform)

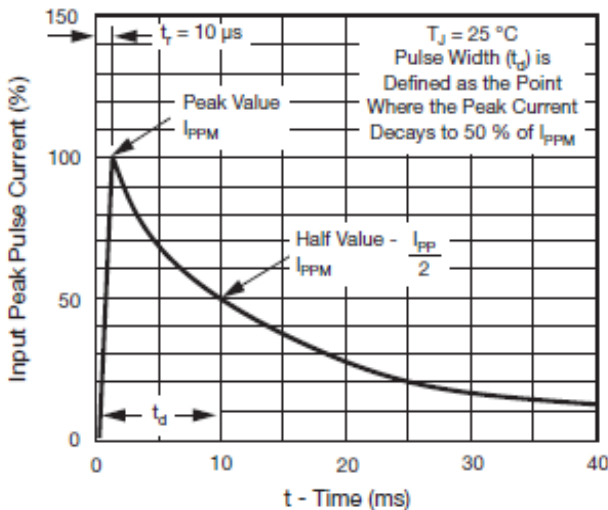


Fig. 3 - Pulse Waveform

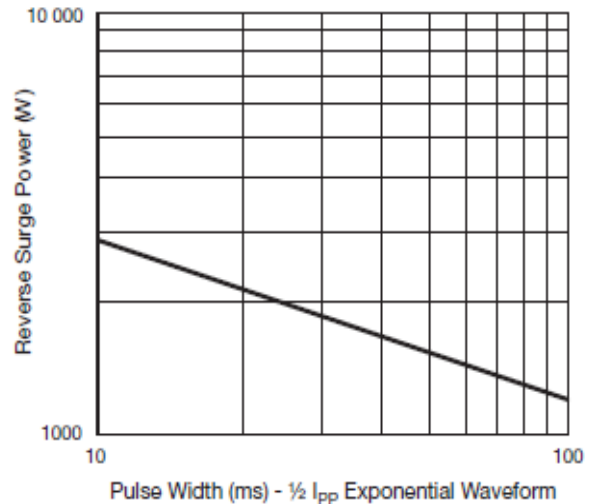


Fig. 4 - Reverse Power Capability

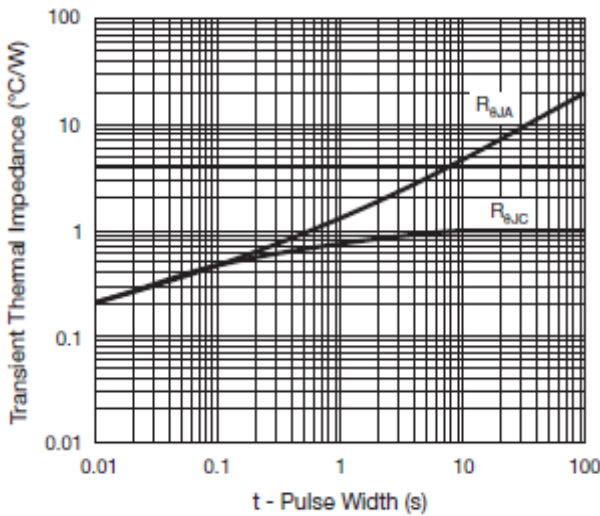


Fig. 5 - Typical Transient Thermal Impedance

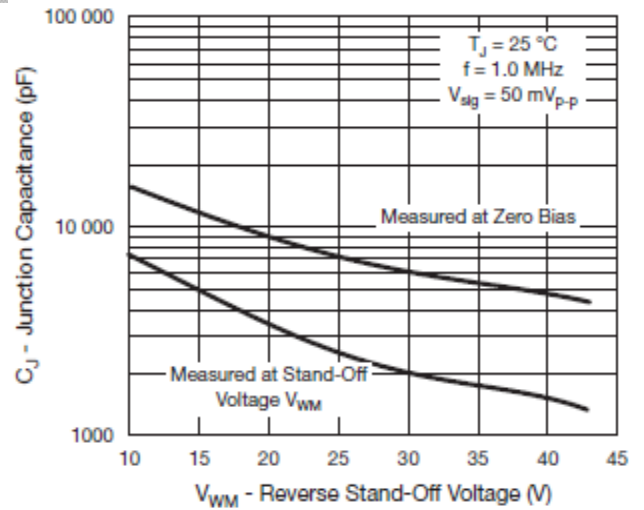


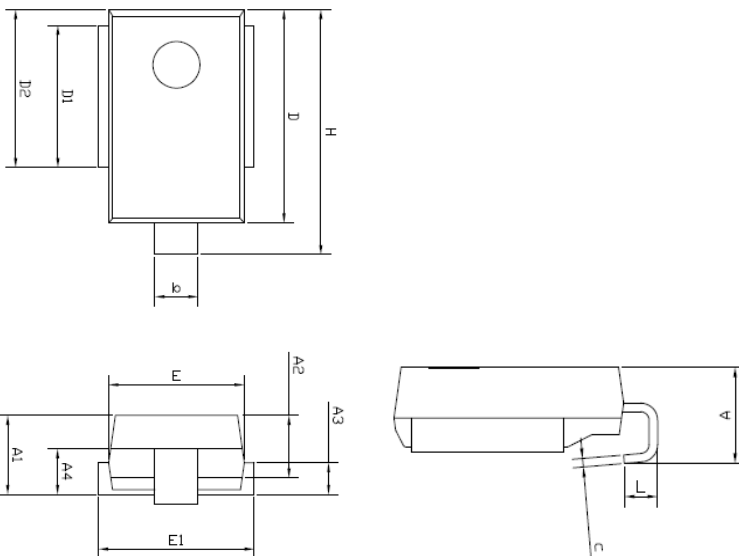
Fig. 6 - Typical Junction Capacitance

Physical Dimensions

DO-218

NOTE :

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH PROTRUSIONS OR GATE BURRS.
2. COPLANARITY : 0.1mm
3. DIMENSION L IS MEASURED IN GAUGE PLANE.



SYMBOLS	DIMENSIONS IN MILLIMETERS		
	MIN	NOM	MAX
A	4.70	-	5.70
A1	4.70	5.00	5.25
A2	3.45	3.95	4.25
A3	1.70	2.00	2.50
A4	2.65	3.10	3.55
b	2.30	-	3.00
c	0.45	-	0.90
D	13.20	13.50	13.80
D1	8.70	9.00	9.30
D2	9.70	10.00	10.30
E	8.20	8.50	8.80
E1	9.50	-	10.00
H	15.00	15.50	16.00
L	1.50	2.00	2.50

Foot Print Recommendation (mm)

