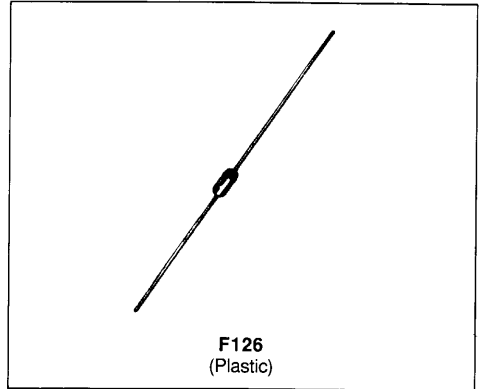


**UNIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR**



**DESCRIPTION**

Transient voltage suppressor diode especially designed for transistor protection in electronic ignition circuit.

Connected across collector and base it avoids any transistor damage when spark plug is fouled or disconnected.

**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter	Value	Unit	
$P_{tot}$	DC Power Dissipation	$T_{amb} = 50\text{ }^{\circ}\text{C}$	1.7	W
$I_{ZM}$	Continuous Reverse Current	$T_{amb} = 50\text{ }^{\circ}\text{C}$	3.5	mA
$P_{RSM}$	Non Repetitive Surge Peak Power Dissipation	$T_J$ Initial = $25\text{ }^{\circ}\text{C}$ $t = 1\text{ ms}$	300	W
$T_{oper}$	Operating Temperature		- 55 to 150	$^{\circ}\text{C}$
$T_{stg}$ $T_J$	Storage and Junction Temperature Range		- 55 to 150 150	$^{\circ}\text{C}$ $^{\circ}\text{C}$
$T_L$	Maximum Lead Temperature for Soldering During 3 s at 5 mm from Case		300	$^{\circ}\text{C}$

**THERMAL RESISTANCE**

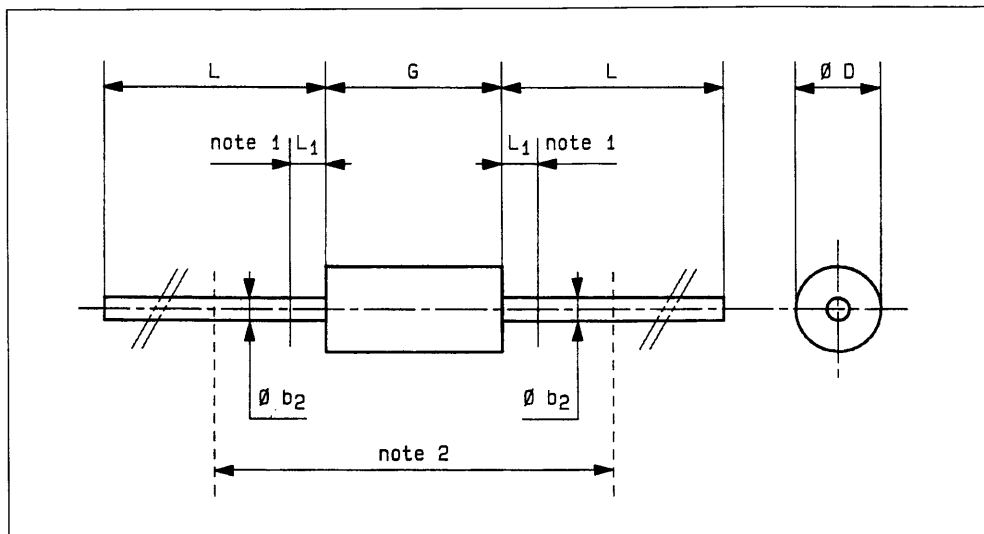
Symbol	Parameter	Value	Unit
$R_{th(j-l)}$	Junction-leads on Infinite Heatsink for $L_{lead} = 10\text{ mm}$	60	$^{\circ}\text{C}/\text{W}$

**ELECTRICAL CHARACTERISTICS**

Type	$V_{BR}$ @ $T_j = 25\text{ }^\circ\text{C}$		$V_{BR}$ @ $T_j = 120\text{ }^\circ\text{C}$		$I_R$	$\alpha_T$ typ.	$I_{RM}/V_{RM}$ max.	$V_{RM}$	$I_{ZM}$
	min.	max.	min.	max.					
	(V)		(V)		(mA)	( $10^{-4}/^\circ\text{C}$ )	( $\mu\text{A}$ )	(V)	(mA)
PL 360 D	330	370	358	416	2	11	0.35	270	3.5

**PACKAGE MECHANICAL**

F 126 Plastic



Ref.	Millimeters		Inches		Notes
	Min.	Max.	Min.	Max.	
$\varnothing b_2$	0.76	0.86	0.029	0.034	1 - The lead diameter $\varnothing b_2$ is not controlled over zone $L_1$ .
$\varnothing D$	2.95	3.05	0.116	0.120	
G	6.05	6.35	0.238	0.250	2 - The minimum axial length within which the device may be placed with its leads bent at right angles is 0.59" (15 mm).
L	26	-	1.024	-	
$L_1$	-	1.27	-	0.050	

Cooling method : by convection (method A).

Marking : type number ; white band indicates cathode.

Weight : 0.4 g.

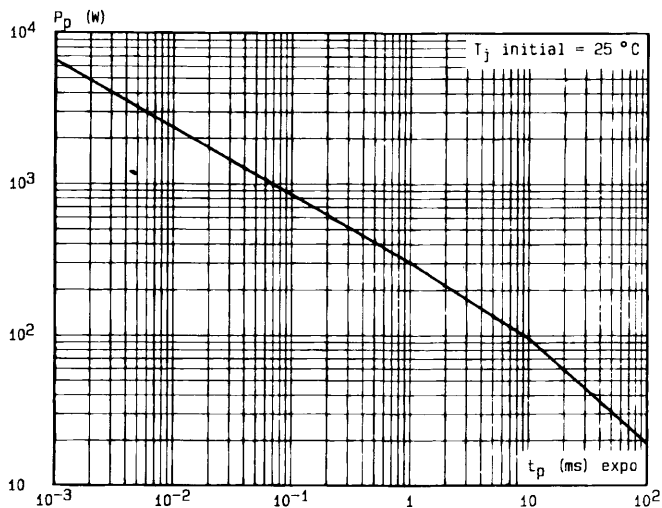


Fig.1 - Peak pulse power versus exponential pulse duration.

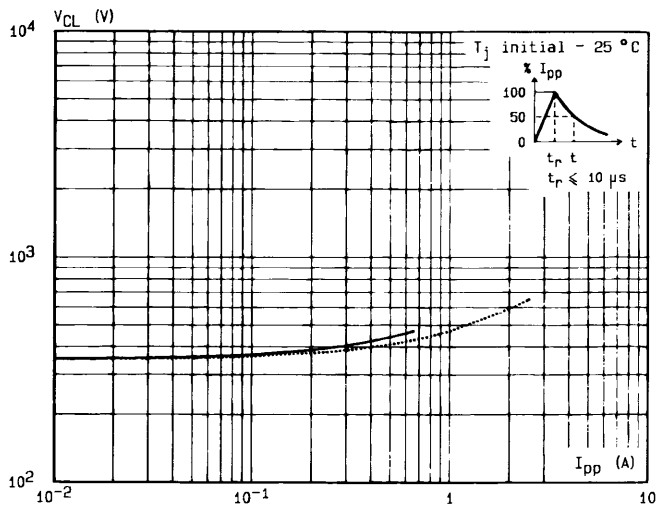


Fig.2 - Clamping voltage versus peak pulse current  
 exponential waveform  $t = 20 \mu s$  .....  
 $t = 1 ms$  —

Note : The curves of the figure 2 are specified for a junction temperature of 25 °C before surge. The given results may be extrapolated for other junction temperatures by using the following formula :  $\Delta V (BR) = \alpha_T (V (BR)) \times [T_j - 25] \times V (BR)$   
 For intermediate voltages, extrapolate the given results.

DB9PL360D/3

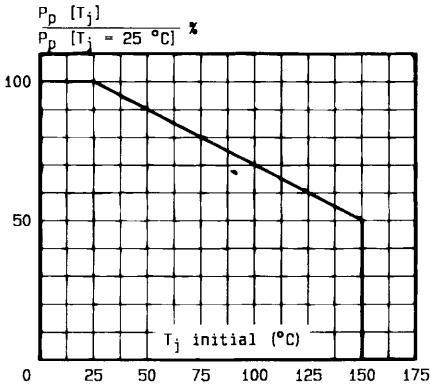


Fig.3 - Allowable power dissipation versus junction temperature.

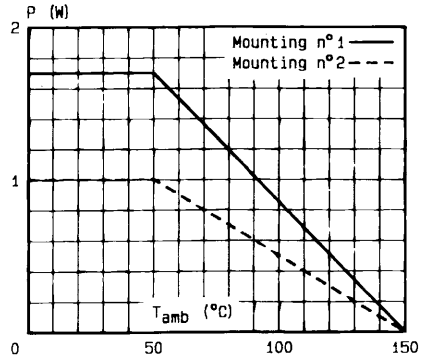


Fig.4 - Power dissipation versus ambient temperature.

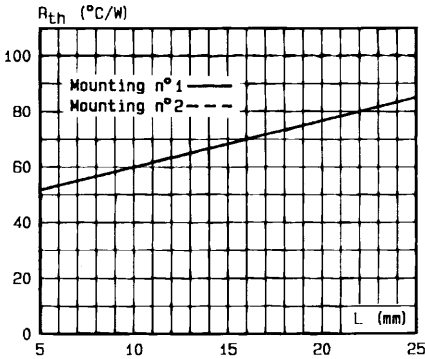


Fig.5 - Thermal resistance versus lead length.

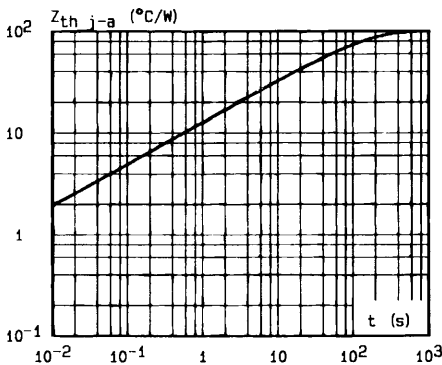
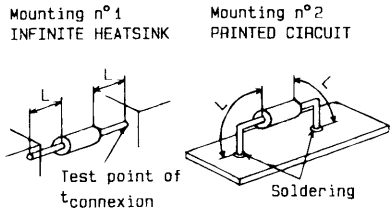


Fig.6 - Transient thermal impedance junction-ambient for mounting n°2 versus pulse duration (L = 10 mm).

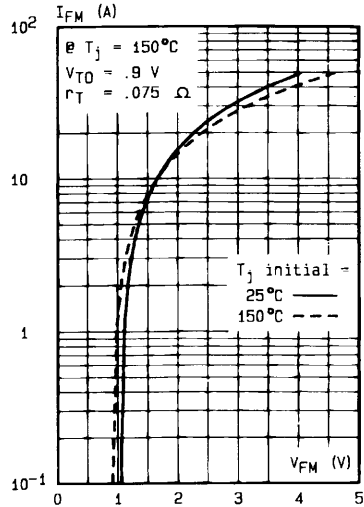


Fig.7 - Peak forward current versus peak forward voltage drop (typical values for unidirectional types).

D89PL360DP4

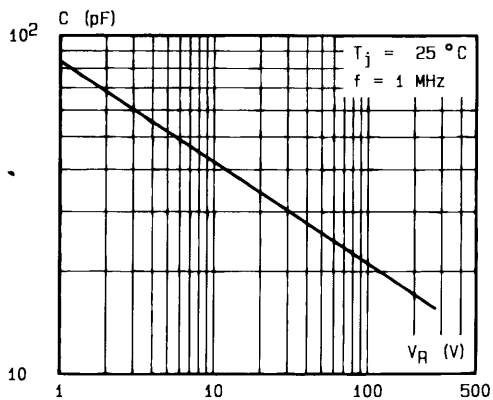
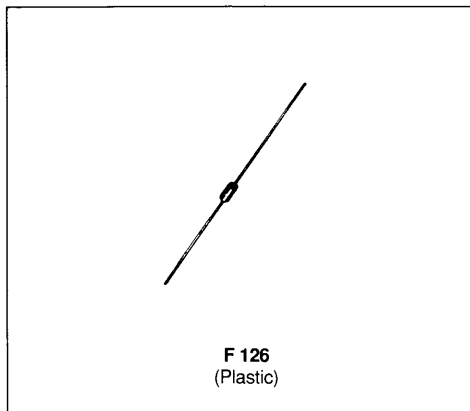


Fig.8 - Capacitance versus reverse applied voltage (typical values).

089PL360DP5

**REFERENCE DIODE**

**DESCRIPTION**

Very low voltage reference diodes in plastic package for specific applications where very tight  $\Delta V_z$  is required.  $\Delta V_z$  lower than 100mV for a forward current of 5mA.

**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter	Value	Unit
$I_{F(AV)}$	Average Forward Current*	$T_{amb} = 85^{\circ}\text{C}$ 0.4	A
$I_{FSM}$	Surge non Repetitive Forward Current	$t_p = 10\text{ms}$ Sinusoidal 30	A
$T_{stg}$ $T_j$	Storage and Junction Temperature Range	- 55 to 125	$^{\circ}\text{C}$
$T_L$	Maximum Lead Temperature for Soldering during 10s at 4mm from Case	230	$^{\circ}\text{C}$

**THERMAL RESISTANCE**

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction-ambient**	100	$^{\circ}\text{C/W}$

\* Single phase, half wave, resistive or inductive load, L (leads) = 10mm.

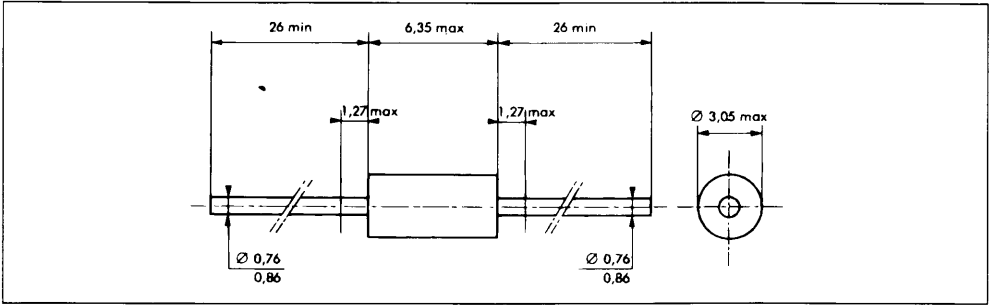
\*\* On printed circuit with L = 10mm.

**ELECTRICAL CHARACTERISTICS**

Symbol	Parameter	Test Conditions	min.	Typ.	Max.	Unit
$I_R$	$T_j = 25^{\circ}\text{C}$	$V_R = 5\text{V}$			10	$\mu\text{A}$
$V_F$	$T_j = 25^{\circ}\text{C}$	$I_F = 5\text{mA}$	0.65		0.75	V
R	$T_j = 25^{\circ}\text{C}$	$I_F = 5\text{mA}$			10	$\Omega$
$\alpha V_F$	$25^{\circ}\text{C} \leq T_j \leq 125^{\circ}\text{C}$	$I_F = 5\text{mA}$	- 25		- 30	$10^{-4}/^{\circ}\text{C}$

**PACKAGE MECHANICAL DATA**

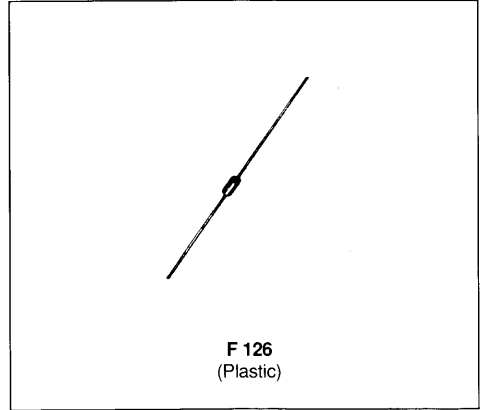
F 126 (Plastic)



Cooling method : by convection (method A).

Marking : clear, ring at cathode end.

Weight : 0.4g

**REFERENCE DIODE**

**DESCRIPTION**

Low voltage reference diodes in plastic package for specific applications where very high  $\Delta Vz$  is required.  $\Delta Vz$  specified is lower than 150mV for a forward current of 5mA.

**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter		Value	Unit
$I_{F(AV)}$	Average Forward Current*	$T_{amb} = 50^{\circ}C$	0.4	A
$I_{FSM}$	Surge non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	30	A
$T_{stg}$ $T_j$	Storage and Junction Temperature Range		- 55 to 125	$^{\circ}C$
$T_L$	Maximum Lead Temperature for Soldering during 10s at 4mm from Case		230	$^{\circ}C$

**THERMAL RESISTANCE**

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction-ambient**	100	$^{\circ}C/W$

\* Single phase, half wave, resistive or inductive load, L (leads) = 10mm.

\*\* On printed circuit with L = 10mm.

**ELECTRICAL CHARACTERISTICS**

Symbol	Parameter	Test Conditions	min.	Typ.	Max.	Unit
$I_R$	$T_j = 25^{\circ}C$	$V_R = 5V$			10	$\mu A$
$V_F$	$T_j = 25^{\circ}C$	$I_F = 5mA$	1.35		1.55	V
R	$T_j = 25^{\circ}C$	$I_F = 5mA$			20	$\Omega$
$\alpha V_F$	$25^{\circ}C \leq T_j \leq 125^{\circ}C$	$I_F = 5mA$	- 25		- 30	$10^{-4}/^{\circ}C$