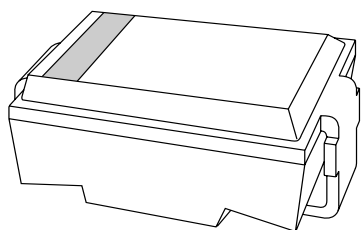


DATA SHEET



PSMA5925B to PSMA5945B Voltage regulator diodes

Product specification

1998 Dec 04

Voltage regulator diodes

PSMA5925B to PSMA5945B

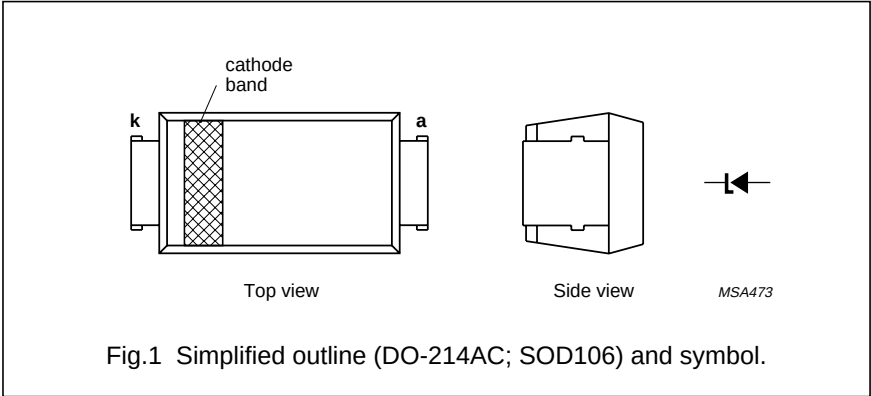
FEATURES

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- UL 94V-O classified plastic package
- Zener working voltage range: 10 to 68 V for 21 types
- Supplied in 12 mm embossed tape.

DESCRIPTION

DO-214AC surface mountable package with glass passivated chip.

The well-defined void-free case is of a transfer-moulded thermo-setting plastic.



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
P _{tot}	total power dissipation	T _{tp} = 75 °C; see Fig.2	–	4.0	W
		T _{amb} = 25 °C; see Fig.2; device mounted on an Al ₂ O ₃ printed-circuit board; see Fig.5	–	1.5	W
P _{ZSM}	non-repetitive peak reverse power dissipation	t _p = 100 μs; square pulse; T _j = 25 °C prior to surge; see Fig.3	–	600	W
T _{stg}	storage temperature		–65	+175	°C
T _j	junction temperature		–65	+175	°C

Voltage regulator diodes

PSMA5925B to PSMA5945B

ELECTRICAL CHARACTERISTICS

Total series

$T_j = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	forward voltage	$I_F = 0.5\text{ A}$	1.2	V

Per type

$T_j = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

DEVICE (note 1)	NOMINAL ZENER VOLTAGE	TEST CURRENT	ZENER IMPEDANCE (max)			REVERSE LEAKAGE CURRENT (max)		
	$V_Z @ I_{ZT}$ (V)	I_{ZT} (mA)	$Z_{ZT} @ I_{ZT}$ (Ω)	Z_{ZK} (Ω)	I_{ZK} (mA)	I_R (μA)	V_R (V)	Max DC Zener Current I_{ZM} (mA _{dc})
PSMA5925B	10	37.5	4.5	500	0.25	10.0	8.0	150
PSMA5926B	11	34.1	5.5	550	0.25	4.0	8.4	136
PSMA5927B	12	31.2	6.5	550	0.25	3.0	9.1	125
PSMA5928B	13	28.8	8.0	600	0.25	1.0	9.9	115
PSMA5929B	15	25.0	9.0	650	0.25	0.5	11.4	100
PSMA5930B	16	23.4	10	650	0.25	0.5	12.2	94
PSMA5931B	18	20.8	12	650	0.25	0.5	13.7	83
PSMA5932B	20	18.7	14	650	0.25	0.5	15.2	75
PSMA5933B	22	17.0	17.5	650	0.25	0.5	16.7	68
PSMA5934B	24	15.6	19	700	0.25	0.5	18.2	63
PSMA5935B	27	13.9	23	700	0.25	0.5	20.6	56
PSMA5936B	30	12.5	26	750	0.25	0.5	22.8	50
PSMA5937B	33	11.4	33	800	0.25	0.5	25.1	45
PSMA5938B	36	10.4	38	850	0.25	0.5	27.4	42
PSMA5939B	39	9.6	45	900	0.25	0.5	29.7	38
PSMA5940B	43	8.7	53	950	0.25	0.5	32.7	35
PSMA5941B	47	8.0	67	1000	0.25	0.5	35.8	32
PSMA5942B	51	7.3	70	1100	0.25	0.5	38.8	29
PSMA5943B	56	6.7	86	1300	0.25	0.5	42.6	27
PSMA5944B	62	6.0	100	1500	0.25	0.5	47.1	24
PSMA5945B	68	5.5	120	1700	0.25	0.5	51.7	22

Note

1. Tolerance and Voltage Designation: Tolerance designation - The type number listed indicates a tolerance of $\pm 5\%$.

Voltage regulator diodes

PSMA5925B to PSMA5945B

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point		25	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	100	K/W
		note 2	150	K/W

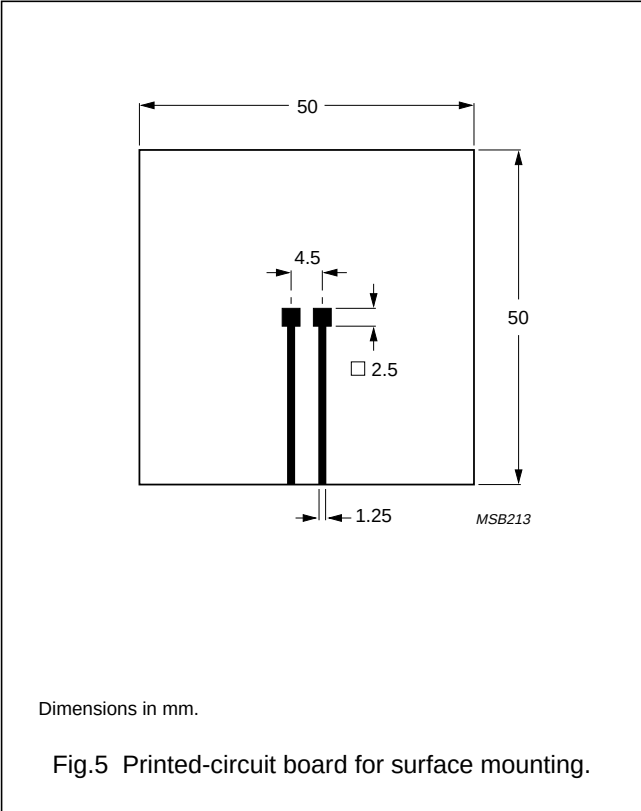
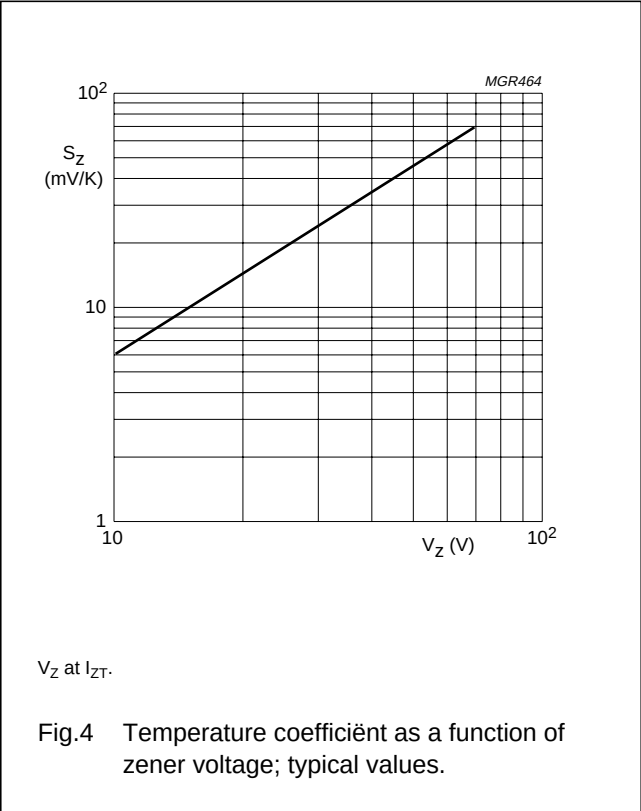
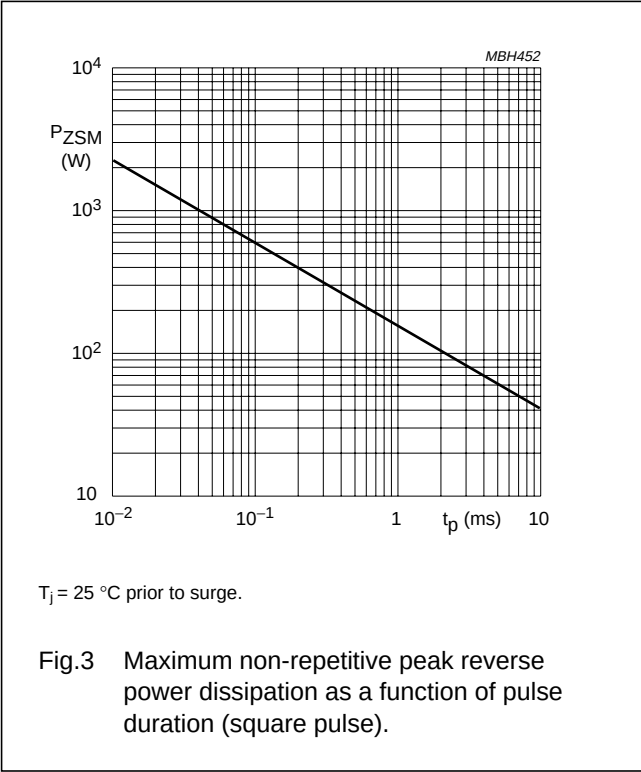
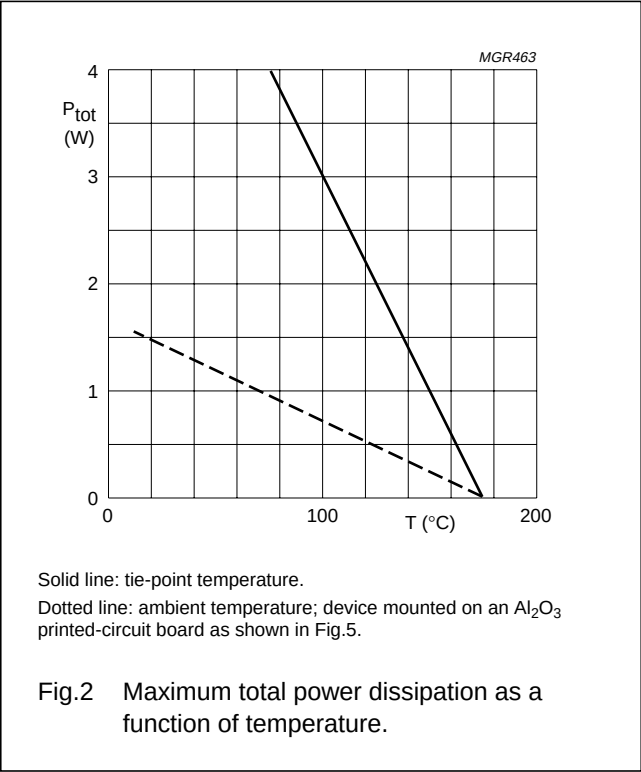
Notes

1. Device mounted on an Al_2O_3 printed-circuit board, 0.7 mm thick; thickness of Cu-layer $\geq 35\ \mu m$, see Fig.5.
2. Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of Cu-layer $\geq 40\ \mu m$, see Fig.5.
For more information please refer to the '*General part of the associated handbook*'.

Voltage regulator diodes

PSMA5925B to PSMA5945B

GRAPHICAL DATA



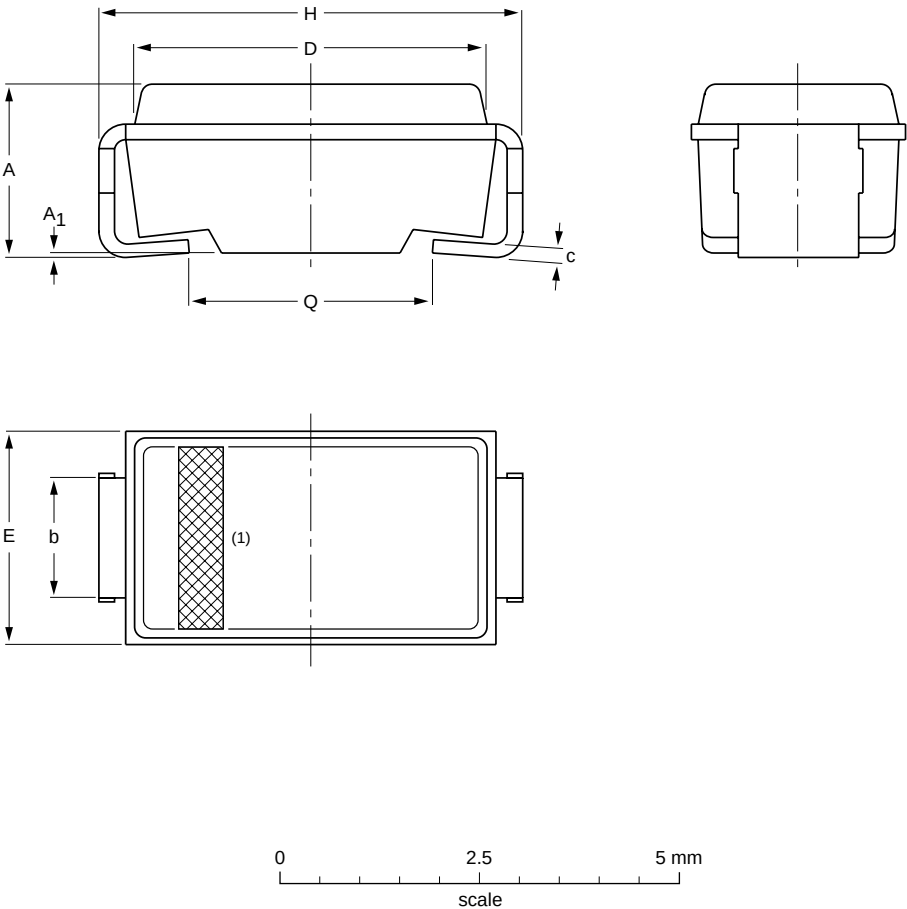
Voltage regulator diodes

PSMA5925B to PSMA5945B

PACKAGE OUTLINE

Transfer-moulded thermo-setting plastic small rectangular surface mounted package;
2 connectors

SOD106



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁	b	c	D	E	H	Q
mm	2.3 2.0	0.05	1.6 1.4	0.2	4.5 4.3	2.8 2.4	5.5 5.1	3.3 2.7

Note

1. The marking band indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD106		DO-214AC				97-06-09

Voltage regulator diodes

PSMA5925B to PSMA5945B

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

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