THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th\ (j-a)}$	Junction to ambient *	175	°C/W

* with 50 mm^2 copper area (e=35µm)

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	Tj = 25°C	V_R = 5V			10	µA
		Tj = 25°C	V_R = 40V			40	µA
		Tj = 100°C			1.5	5	mA
V_F **	Forward voltage drop	Tj = 25°C	I_F = 1 A			0.55	V
		Tj = 100°C			0.45	0.51	

Pulse test : * tp = 5 ms, δ < 2 %
** tp = 380 µs, δ < 2%

To evaluate the maximum conduction losses use the following equation :
$P = 0.2 \times I_{F(AV)} + 0.3 \times I_F{}^2{}_{(RMS)}$ at Tj = 150°C

Fig. 1: Average forward power dissipation versus average forward current.

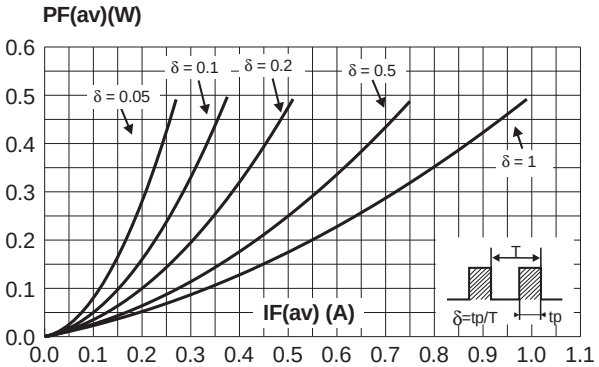


Fig. 2: Average forward current versus ambient temperature (δ=1).

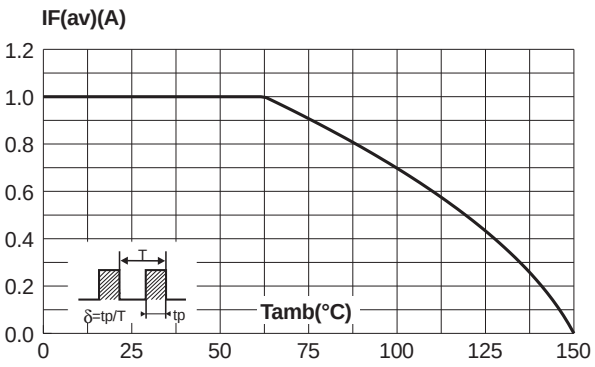


Fig. 3: Non repetive surge peak forward current versus overload duration (maximum values).

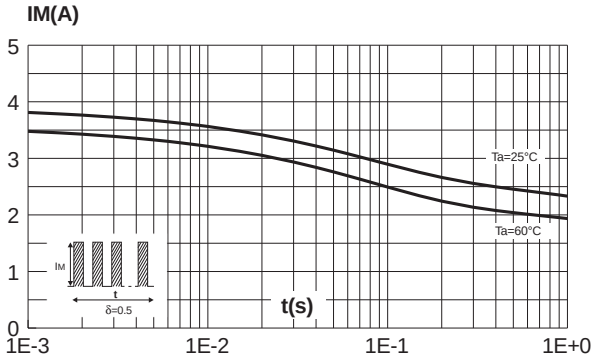


Fig. 4: Relative variation of thermal impedance junction to ambient versus pulse duration (epoxy printed circuit board FR4 with recommended pad layout).

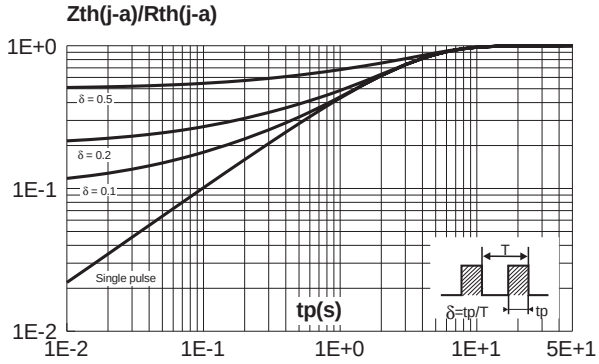


Fig. 5: Reverse leakage current versus reverse voltage applied (typical value).

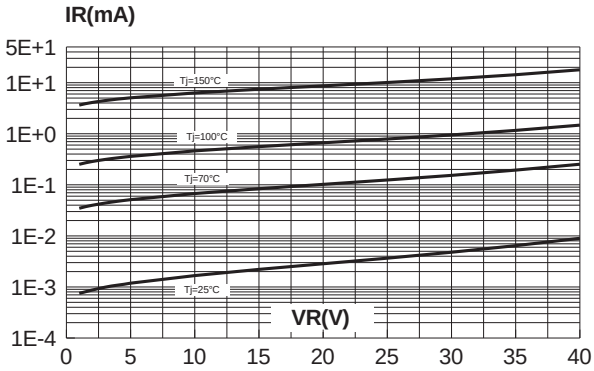


Fig. 6: Reverse leakage current versus junction temperature (typical value).

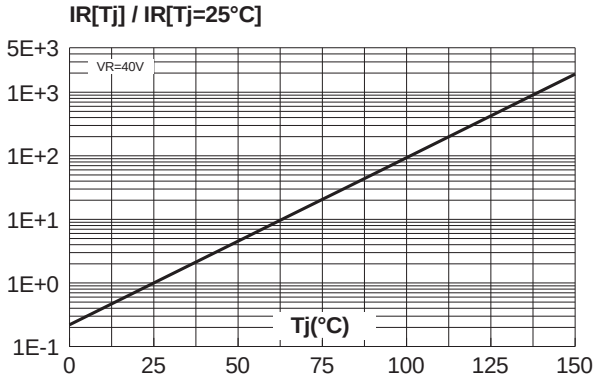


Fig. 7: Junction capacitance versus reverse voltage applied (typical value).

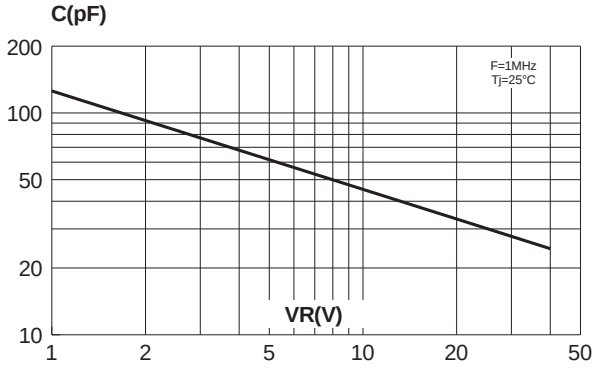


Fig. 8-1: Forward voltage drop versus forward current (high level, maximum values).

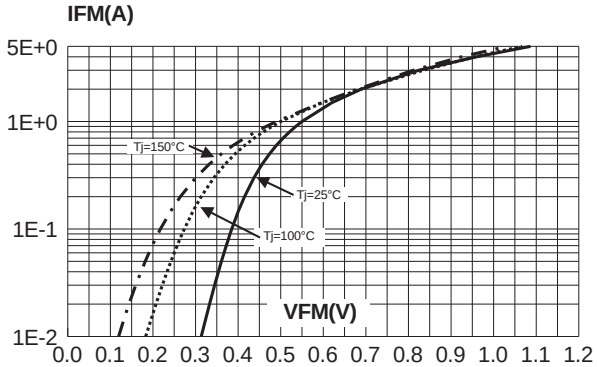


Fig. 8-2: Forward voltage drop versus forward current (low level, maximum values).

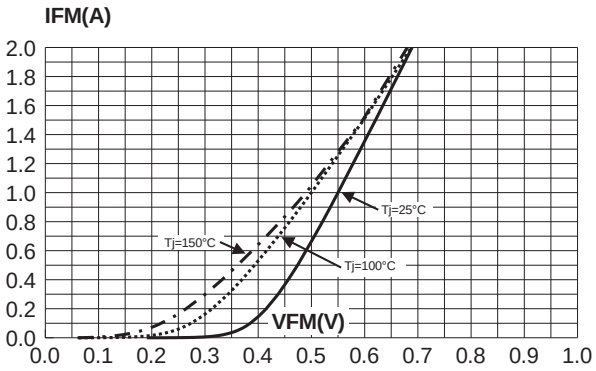
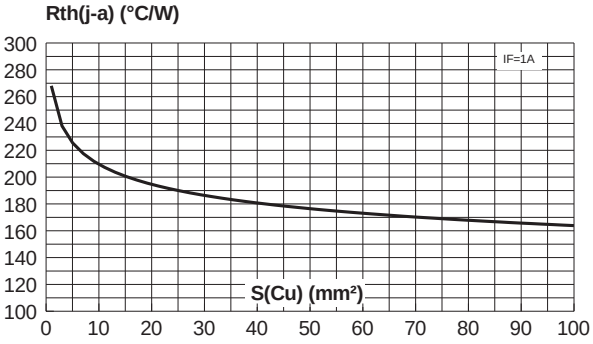
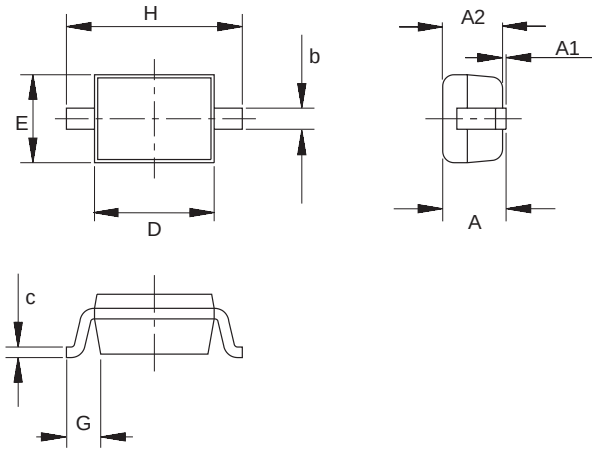


Fig. 9: Thermal resistance junction to ambient versus copper surface (epoxy printed circuit board FR4, copper thickness: 35µm).



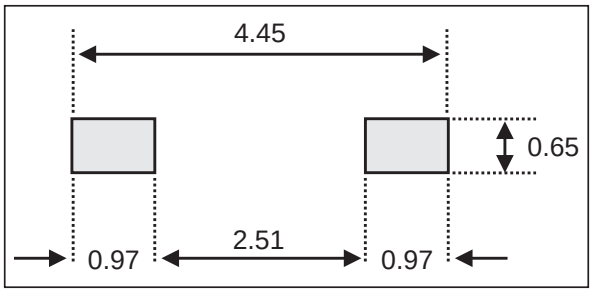
PACKAGE MECHANICAL DATA

SOD-123 Plastic



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A		1.45		0.057
A1	0	0.1	0	0.004
A2	0.85	1.35	0.033	0.053
b	0.55 Typ.		0.022 Typ.	
c	0.15 Typ.		0.039 Typ.	
D	2.55	2.85	0.1	0.112
E	1.4	1.7	0.055	0.067
G	0.25		0.01	
H	3.55	3.95	0.14	0.156

FOOTPRINT (in millimeters)



MARKING

Type	Marking	Package	Weight	Base qty	Delivery mode
STPS140Z	Z54	SOD-123	0.01 g	3000	Tape & reel

- Epoxy meets UL94, V0
- Band indicates cathode