

THERMAL RESISTANCES

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

* with 50 mm² copper area (e=35μm)

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions	Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	$T_j = 25^{\circ}C$	$V_R = 5V$		10	μA
		$T_j = 25^{\circ}C$			40	μA
		$T_j = 100^{\circ}C$		1.5	5	mA
V_F **	Forward voltage drop	$T_j = 25^{\circ}C$	$I_F = 1 A$		0.55	V
		$T_j = 100^{\circ}C$		0.45	0.51	

Pulse test : * $t_p = 5 ms$, $\delta < 2 \%$
** $t_p = 380 \mu s$, $\delta < 2\%$

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

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

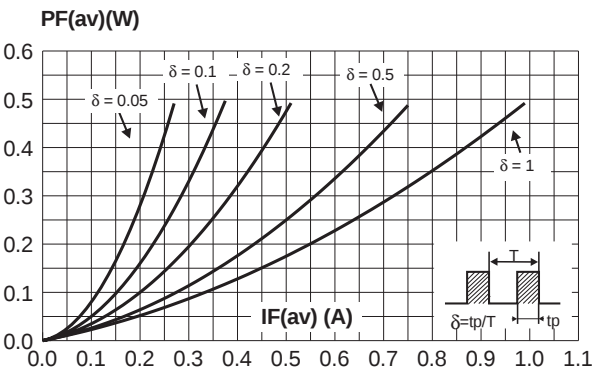


Fig. 2: Average forward current versus ambient temperature ($\delta=1$).

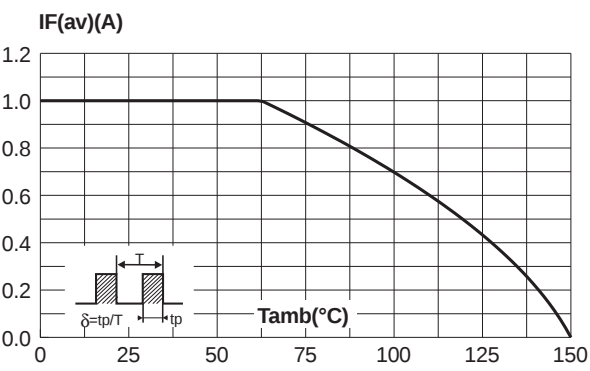


Fig. 3: Non repetitive surge peak forward current versus overload duration (maximum values).

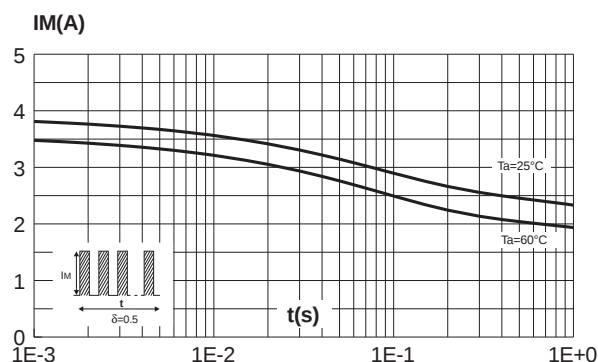


Fig. 4: Relative variation of thermal impedance junction to ambient versus pulse duration (epoxy printed circuit board FR4 with recommended pad layout).

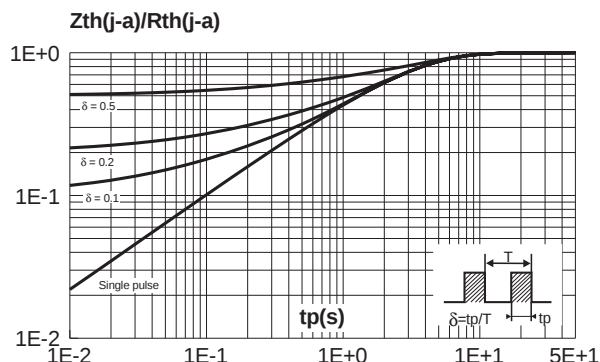


Fig. 5: Reverse leakage current versus reverse voltage applied (typical value).

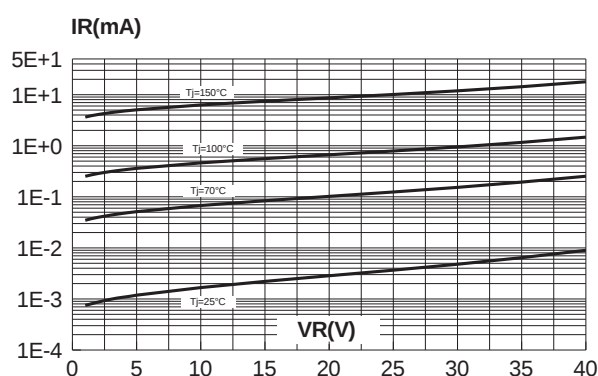


Fig. 6: Reverse leakage current versus junction temperature (typical value).

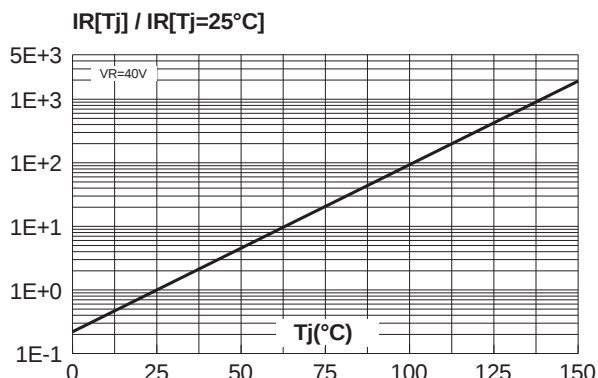


Fig. 7: Junction capacitance versus reverse voltage applied (typical value).

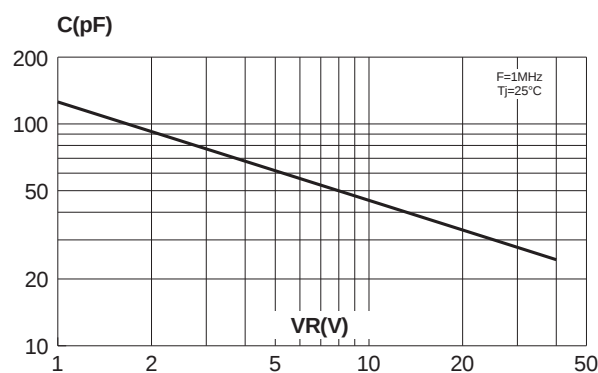


Fig. 8-1: Forward voltage drop versus forward current (high level, maximum values).

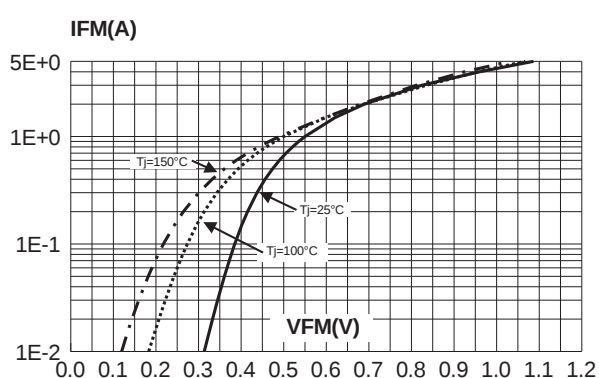


Fig. 8-2: Forward voltage drop versus forward current (low level, maximum values).

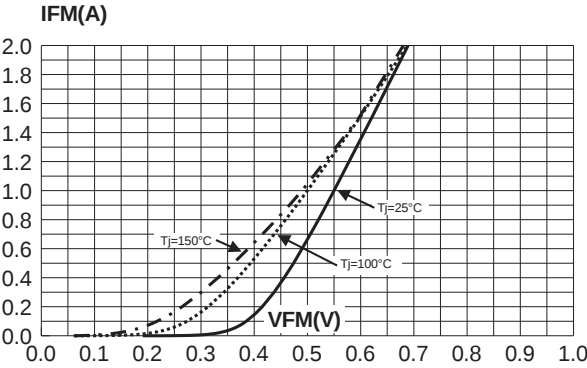
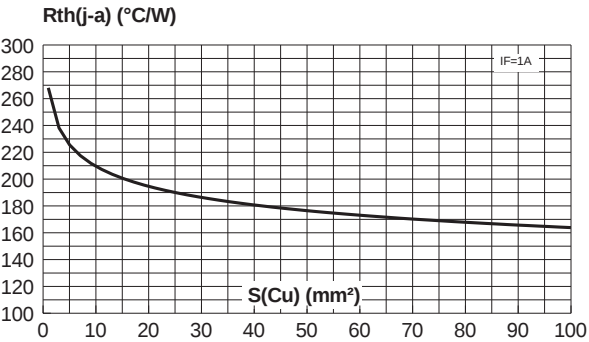


Fig. 9: Thermal resistance junction to ambient versus copper surface (epoxy printed circuit board FR4, copper thickness: 35μm).

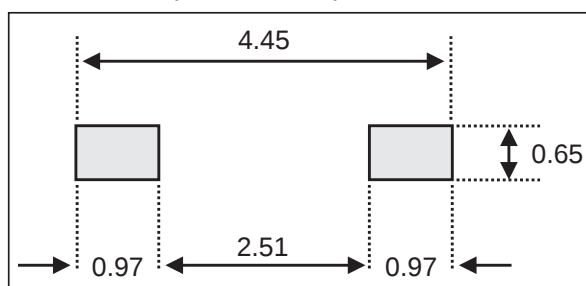


PACKAGE MECHANICAL DATA

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

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