

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth (j-l)	Junction to lead	13	°C/W

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameters	Test Conditions		Min.	Typ.	Max.	Unit
V _F *	Forward voltage drop	T _j = 25°C	I _F = 1 A			0.9	V
		T _j = 150°C	I _F = 1 A		0.65	0.71	
I _R **	Reverse leakage current	T _j = 25°C	V _R = V _{RRM}			3	μA
		T _j = 125°C			180	400	

Pulse test : * tp = 380 μs, δ < 2 %

** tp = 5 ms, δ < 2 %

To evaluate the maximum conduction losses use the following equation :

$$P = 0.58 \times I_{F(AV)} + 0.118 \times I_F^2 (RMS)$$

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t _{rr}	T _j = 25°C	I _F = 0.5 A	I _{rr} = 0.25 A I _R = 1A			25	ns
		I _F = 1 A	dI _F /dt = - 50 A/μs V _R = 30V		25	35	
t _{fr}	T _j = 25°C	I _F = 1A	dI _F /dt = 100 A/μs			25	ns
V _{FP}	T _j = 25°C	I _F = 1A	dI _F /dt = 100 A/μs			5	V

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

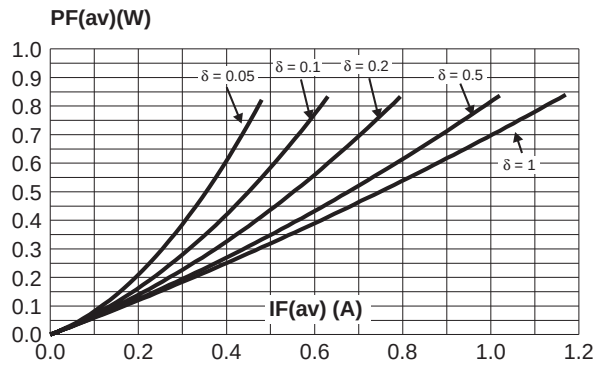


Fig. 2: Peak current versus form factor.

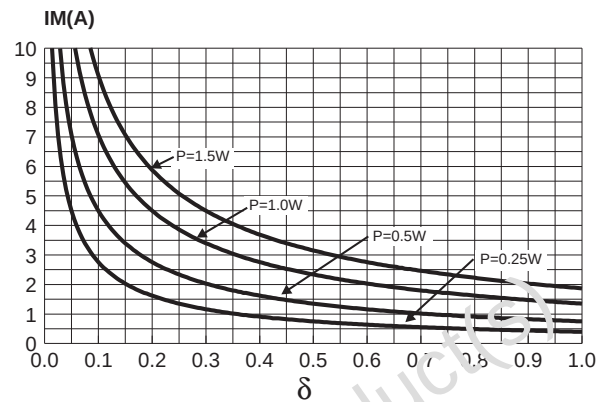


Fig. 3: Average forward current versus ambient temperature ($\delta=0.5$).

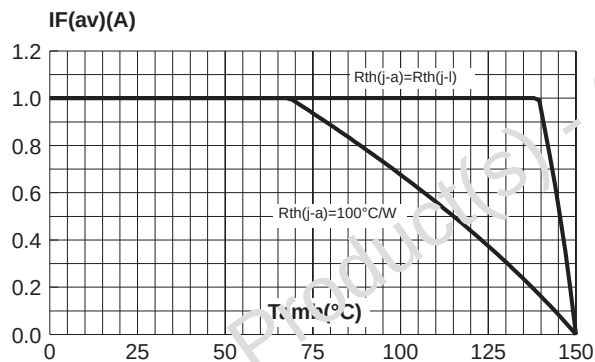


Fig. 4: Non repetitive surge peak forward current versus overload duration.

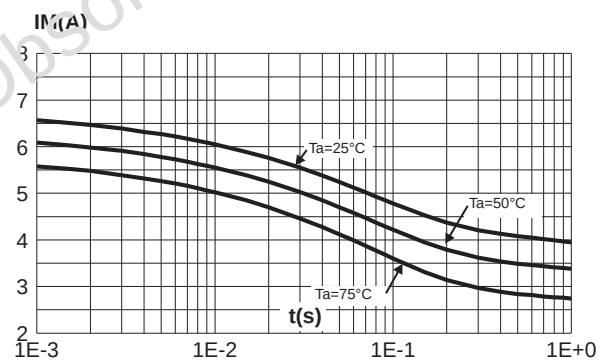


Fig. 5: Variation of thermal impedance junction to ambient versus pulse duration (recommended pad layout, epoxy FR4, $e(Cu)=35\mu m$).

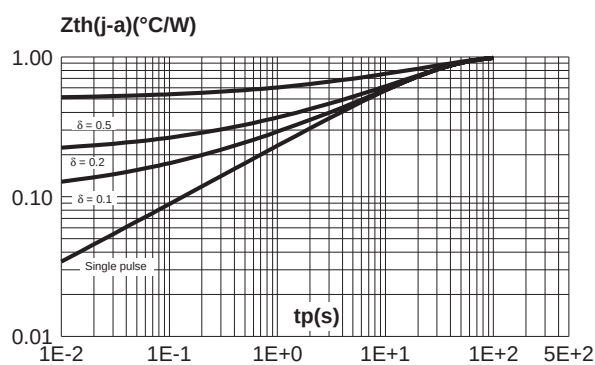


Fig. 6: Forward voltage drop versus forward current (maximum values).

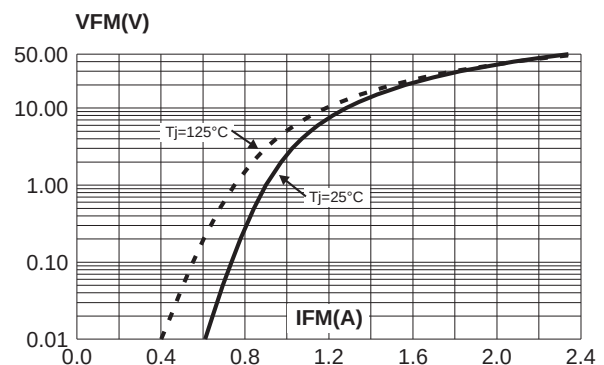


Fig. 7: Junction capacitance versus reverse voltage applied (typical values).

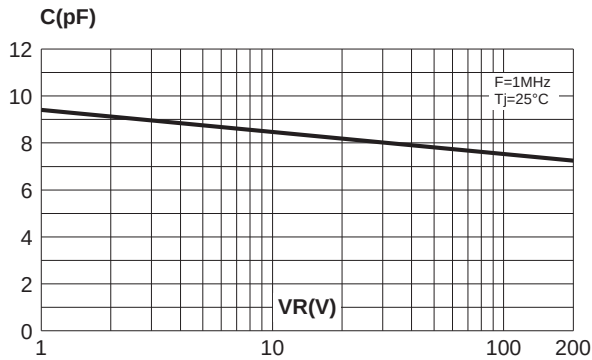


Fig. 8: Reverse recovery current versus dI_F/dt .

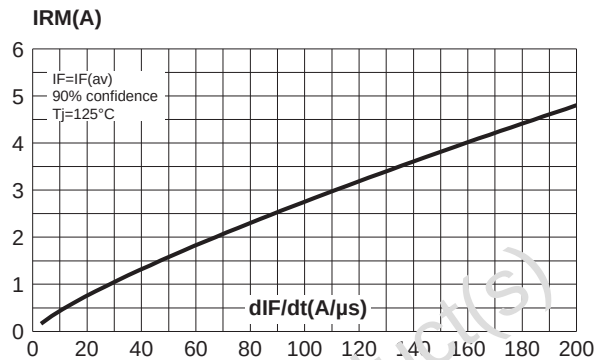


Fig. 9: Reverse recovery time versus dI_F/dt .

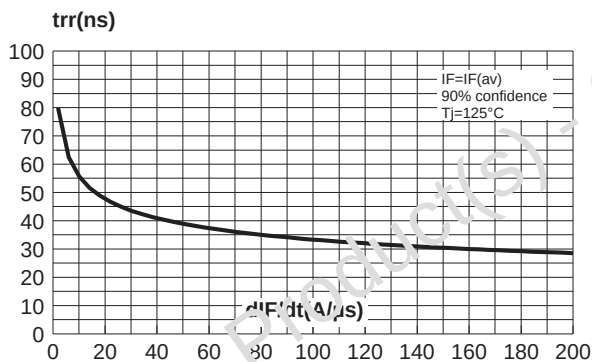


Fig. 10: Reverse recovery charges versus dI_F/dt .

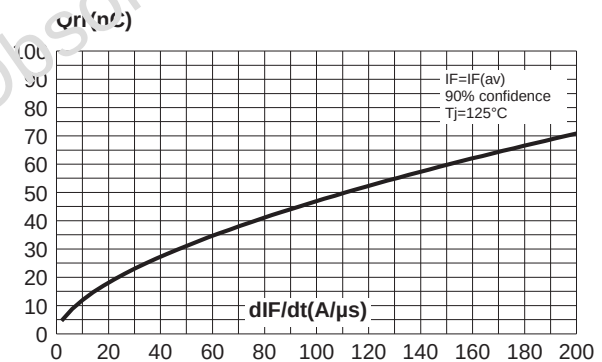


Fig. 11: Dynamic parameters versus junction temperature.

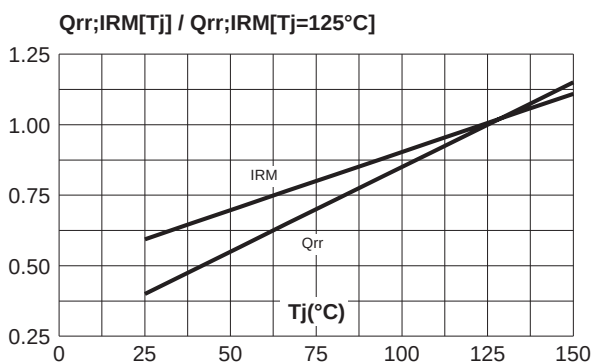
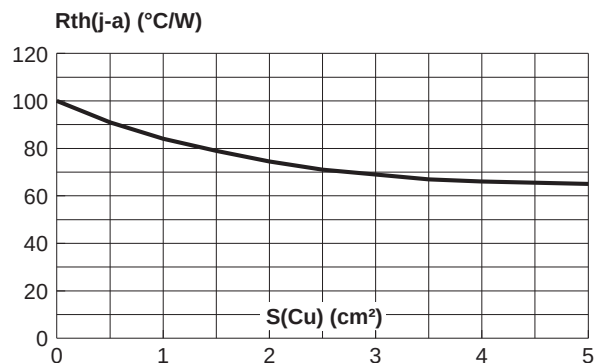


Fig. 12: Thermal resistance junction to ambient versus copper surface under each lead (Epoxy printed circuit board FR4, copper thickness: 35μm)



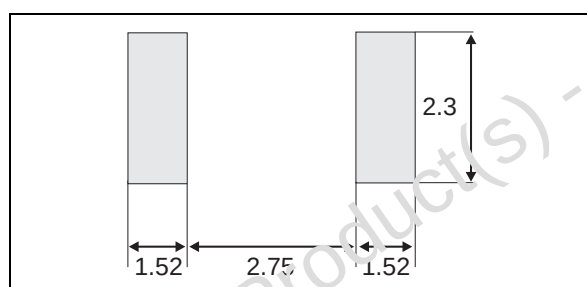
PACKAGE MECHANICAL DATA

SMB

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A1	1.90	2.45	0.075	0.096
A2	0.05	0.20	0.002	0.008
b	1.95	2.20	0.077	0.087
c	0.15	0.41	0.006	0.016
E	5.10	5.60	0.201	0.220
E1	4.05	4.60	0.159	0.181
D	3.30	3.95	0.130	0.156
L	0.75	1.60	0.030	0.063

FOOT PRINT DIMENSIONS (in millimeters)

SMB (Plastic)



Ordering type	Marking	Package	Weight	Base qty	Delivery mode
SMBYW01-200	B20	SMB	0.11g	2500	Tape & reel

■ B and indicates cathode

■ Epoxy meets UL94,V0

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