TAYCHIPST

HIGH EFFICIENCY FAST RECOVERY RECTIFIER DIODES

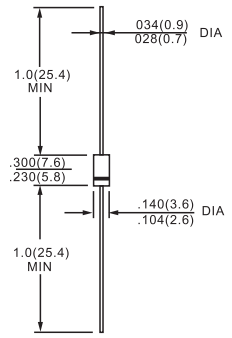
BYW100-200

200V 1.5A

FEATURES

- VERY LOW CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD AND REVERSE RECOVERY TIMES
- THE SPECIFICATIONS AND CURVES ENABLE THE DETERMINATION OF trr AND I_{RM} AT 100°C UNDER USERS CONDITIONS

DO-15



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive peak reverse voltage		200	V
I_{FRM}	Repetitive peak forward current *	tp = 5 µs F = 1KHz	80	A
$I_{F(AV)}$	Average forward current *	Ta = 95°C δ = 0.5	1.5	A
I_{FSM}	Surge non repetitive forward current	tp=10 ms sinusoidal	50	A
T_{stg}	Storage temperature range		-65 +150	°C
Tj	Maximum operating junction temperature		+ 150	°C
T_L	Maximum lead temperature for soldering during 10s at 4mm from case		230	°C

STATIC ELECTRICAL CHARACTERISTICS (per diode)

Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	$V_R = V_{RRM}$	Tj = 25°C			10	µA
			Tj = 100°C			0.5	mA
V_F **	Forward voltage drop	I_F = 4.5 A	Tj = 25°C			1.2	V
		I_F = 1.5 A	Tj = 100°C		0.78	0.85	

RECOVERY CHARACTERISTICS

Symbol	Tests conditions		Min.	Typ.	Max.	Unit
trr	I_F = 1 A dI_F/dt = - 50 A/µs V_R = 30 V	Tj = 25°C			35	ns
tfr	I_F = 1.5 A dI_F/dt = -50 A/µs Measured at 1.1 x V_F max.	Tj = 25°C		30		ns
V_{FP}	I_F = 1.5 A dI_F/dt = -50 A/µs	Tj = 25°C		5		V
Qrr	I_F = 1.5 A dI_F/dt = -20 A/µs $V_R \leq 30$ V	Tj = 25°C		10		nC

RATINGS AND CHARACTERISTIC CURVES BYW100-200

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

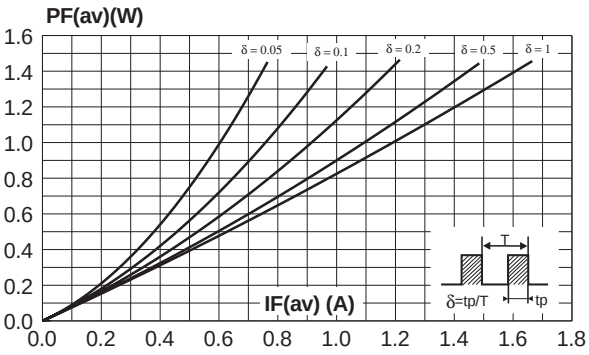


Fig. 2: Average forward current versus ambient temperature (δ=0.5).

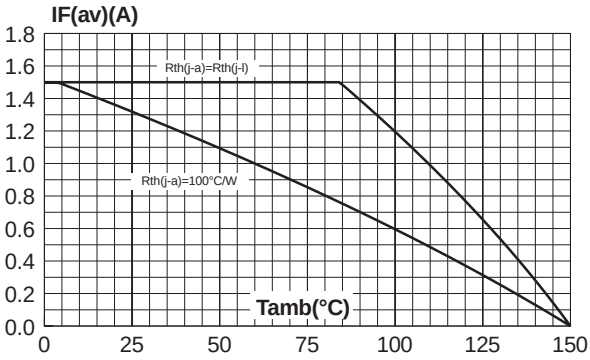


Fig. 3: Thermal resistance versus lead length.

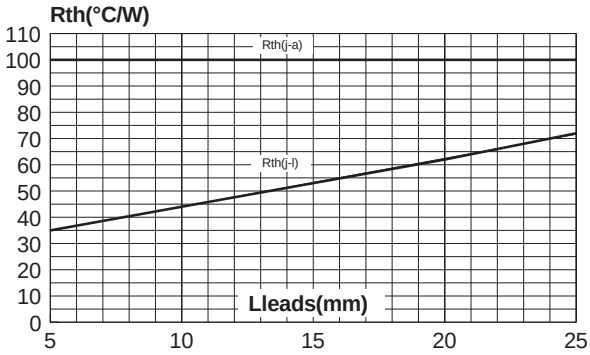


Fig. 4: Variation of thermal impedance junction to ambient versus pulse duration (recommended pad

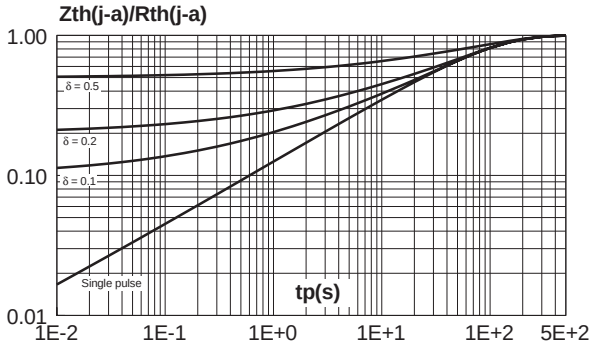


Fig. 5: Forward voltage drop versus forward current (maximum values).

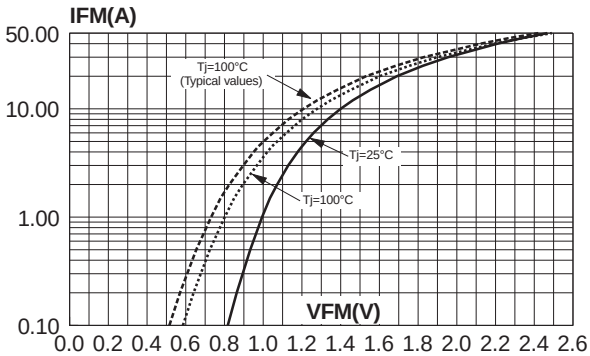


Fig. 6: Junction capacitance versus reverse voltage applied (typical values).

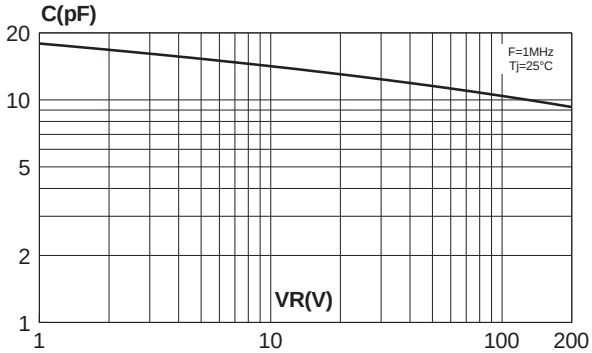


Fig. 7: Reverse recovery time versus dI_F/dt .

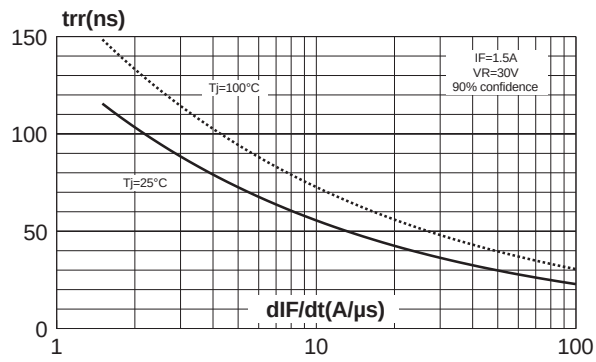


Fig. 8: Peak reverse recovery current versus dI_F/dt.