

HIGH EFFICIENCY FAST RECOVERY RECTIFIER DIODES

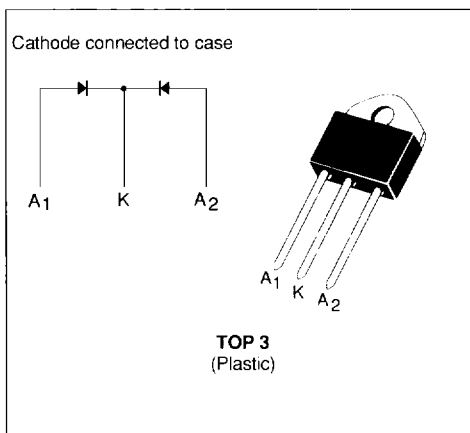
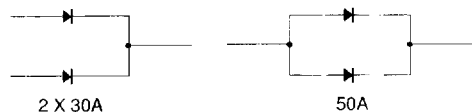
- VERY SMALL CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD AND REVERSE RECOVERY TIMES
- REDUCED SIZE

DESCRIPTION

Low voltage drop double rectifiers center tap suited for switching mode power supply.

SUITABLE APPLICATIONS

The BYV 52 can be used :



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
I_{FRM}	Repetitive Peak Forward Current	$t_p \leq 20\mu s$	500	A
I_F (RMS)	RMS Forward Current		50 per leg 70 total	A
I_F (AV)	Average Forward Current	$T_C = 110^\circ C$ $\delta = 0.5$	30 per leg 50 total	A
I_{FSM}	Surge non Repetitive Forward Current	$t_p = 10ms$ sinusoidal	500	A
P_{Tot}	Power Dissipation	$T_C = 110^\circ C$	30 per leg 46 total	W
T_{Stg} T_j	Storage and Junction Temperature Range		- 40 to 150	$^\circ C$

Symbol	Parameter	BYV 52-				Unit
		50	100	150	200	
V_{RRM}	Repetitive Peak Reverse Voltage	50	100	150	200	V
V_{RSM}	Non Repetitive Peak Reverse Voltage	55	110	165	220	V

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction-case	1.2 per leg 0.75 total	$^\circ C/W$
$R_{th(c)}$	Coupling	0.3	$^\circ C/W$

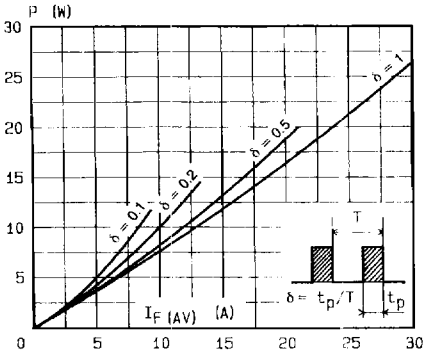


FIGURE 1 : Power losses versus average current.

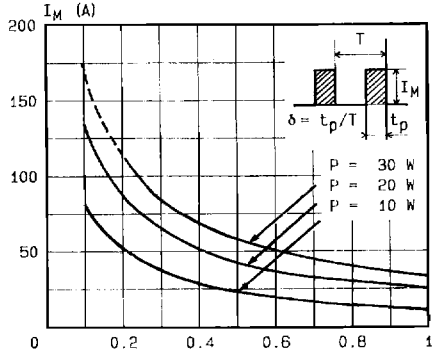


FIGURE 2 : Peak current versus form factor.

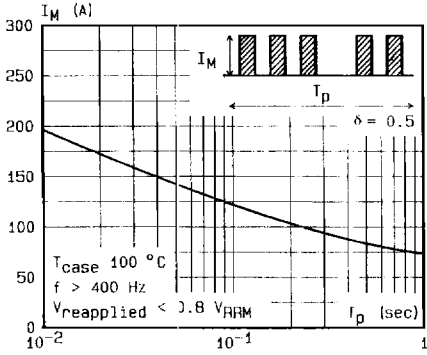


FIGURE 3 : Non repetitive peak surge current versus duration

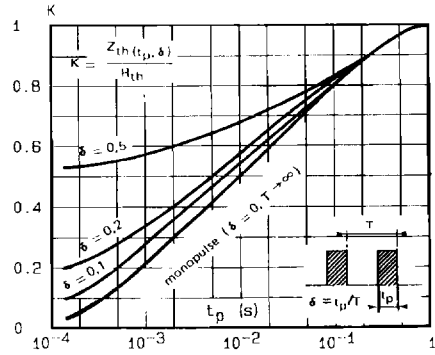


FIGURE 4 : Thermal impedance versus pulse width.

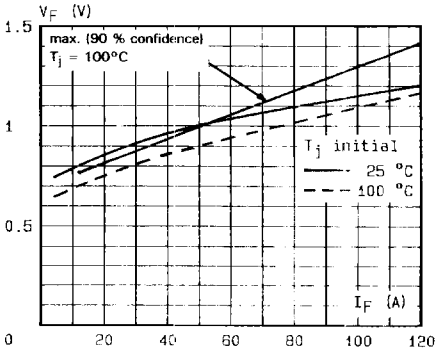


FIGURE 5 : Voltage drop versus forward current.

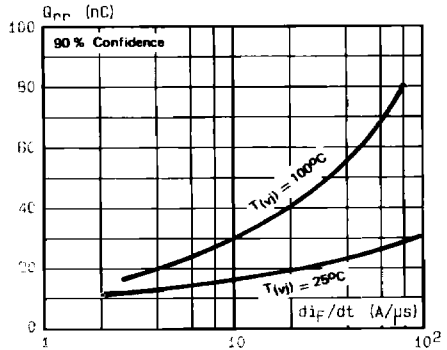


FIGURE 6 : Recovery charge versus di_F/dt .

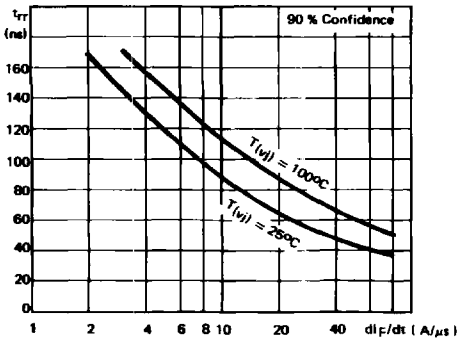


FIGURE 7 : Recovery time versus di_F/dt .

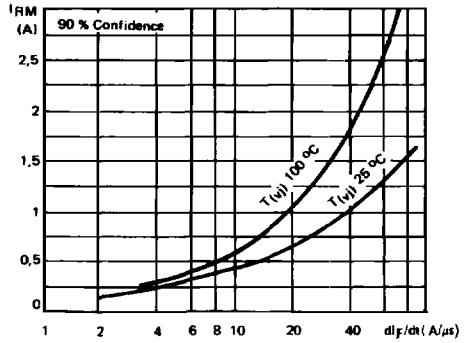


FIGURE 8 : Peak reverse current versus di_F/dt .

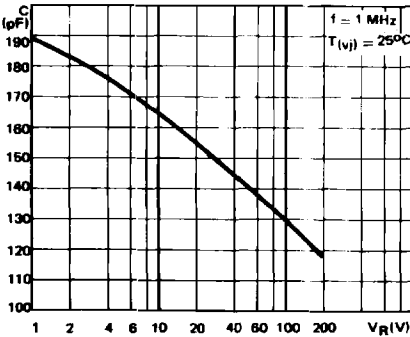


FIGURE 9 : Capacitance versus reverse voltage applied.

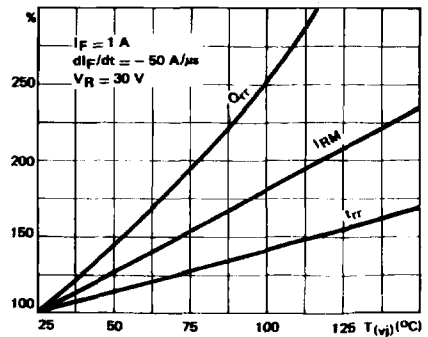


FIGURE 10 : Dynamic parameters versus junction temperature.

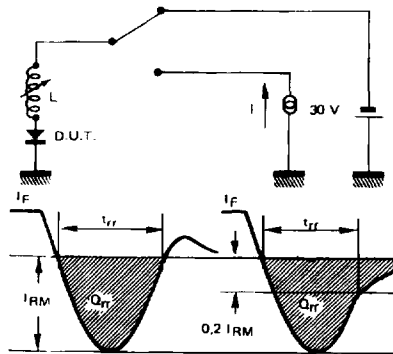


FIGURE 11 : Measurement of t_{rr} (fig.7) and I_{RM} (fig.8).