



## DTV1500LFP

### (CRT HORIZONTAL DEFLECTION) HIGH VOLTAGE DAMPER DIODE

#### MAIN PRODUCTS CHARACTERISTICS

$I_{F(AV)}$	4 A
$V_{RRM}$	1500 V
$V_F(\text{max})$	1.5 V
$t_{rr}(\text{max})$	170 ns

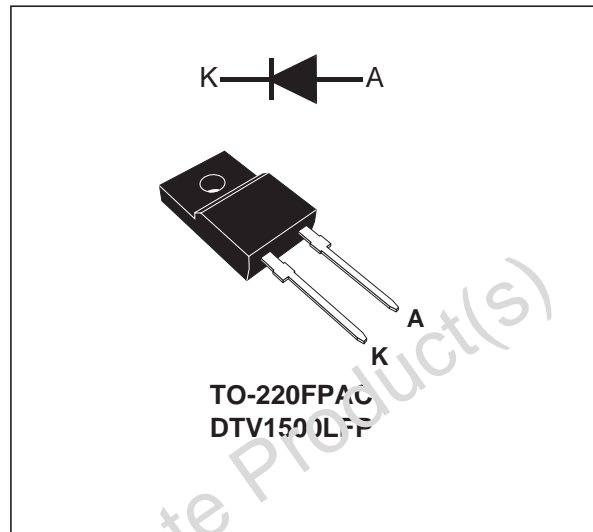
#### FEATURES AND BENEFITS

- High breakdown voltage capability
- High frequency operation
- Specified turn on switching characteristics
- Very fast recovery diode
- Low static and peak forward voltage drop for low dissipation
- Insulated package: TO-220FPAC  
Insulating voltage = 2000V DC  
Capacitance = 12pF
- Planar technology allowing high quality and best electrical characteristics

#### DESCRIPTION

High voltage diode especially designed for horizontal deflection stage in standard and high resolution displays for TV's and monitors.

This device is packaged in TO-220FPAC (insulated package).



#### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{RRM}$	Repetitive peak reverse voltage	1500	V
$I_{F(RMS)}$	RMS forward current	15	A
$I_{FSM}$	Surge non repetitive forward current	50	A
	$t_p = 10\text{ms}$ sinusoidal		
$T_{stg}$	Storage temperature	- 65 to 150	°C
$T_j$	Maximum operating junction temperature	150	°C

## DTV1500LFP

### THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to Case thermal resistance	5.8	°C/W

### STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test Conditions		Value			Unit
				Min	Typ	Max	
$I_R$ *	Reverse leakage current	$V_R = 1500V$	$T_j = 25^\circ C$			100	$\mu A$
			$T_j = 125^\circ C$		100	1000	$\mu A$
$V_F$ **	Forward voltage drop	$I_F = 4A$	$T_j = 25^\circ C$		1.2	1.7	V
			$T_j = 125^\circ C$		1.1	1.5	

pulse test : \*  $t_p = 5 \text{ ms}$  ,  $\delta < 2\%$   
 \*\*  $t_p = 380 \mu s$  ,  $\delta < 2\%$

### RECOVERY CHARACTERISTICS

Symbol	Parameter	Test Conditions		Value			Unit
				Min	Typ	Max	
$t_{rr}$	Reverse recovery time	$T_j = 25^\circ C$	$I_F = 1 A$ $di_F/dt = -50A/\mu s$ $V_R = 30V$		130	170	ns
$t_{rr}$	Reverse recovery time	$T_j = 25^\circ C$	$I_F = 100mA$ $I_R = 100mA$ $I_{RR} = 10mA$		850		ns

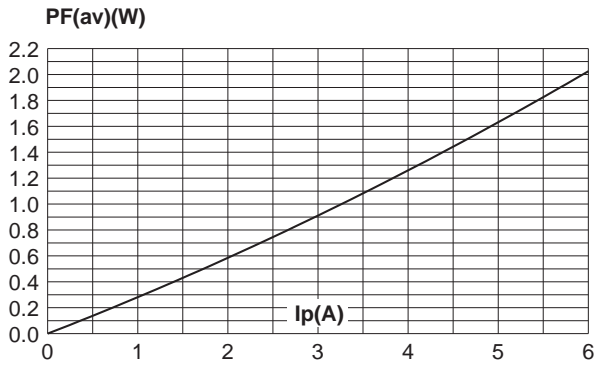
### TURN-ON SWITCHING CHARACTERISTICS

Symbol	Parameter	Test Conditions		Value			Unit
				Min	Typ	Max	
$t_{fr}$	Forward recovery time	$T_j = 100^\circ C$	$I_F = 4 A$ $di_F/dt = 80 A/\mu s$ $V_{FR} = 3 V$			450	ns
		$T_j = 25^\circ C$	$I_F = 6.5A$ $di_F/dt = 50 A/\mu s$ $V_{FR} = 3V$			450	
$V_{Fp}$	Peak forward voltage	$T_j = 100^\circ C$	$I_F = 4A$ $di_F/dt = 80 A/\mu s$		28	36	V
		$T_j = 25^\circ C$	$I_F = 6.5A$ $di_F/dt = 50 A/\mu s$		13	17	

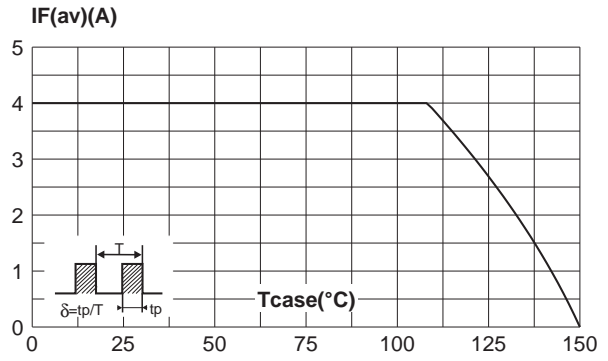
To evaluate the maximum conduction losses use the following equation :

$$P = 1.2 \times I_{F(AV)} + 0.075 \times I_{F(RMS)}^2$$

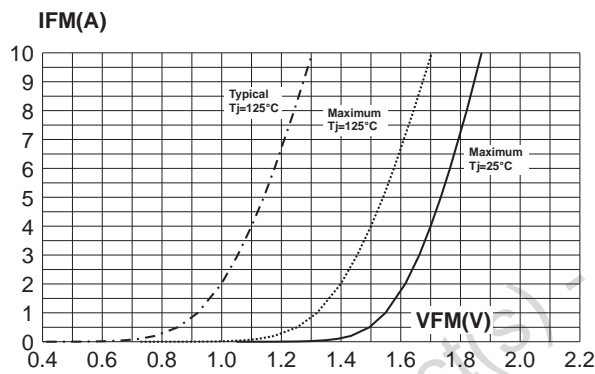
**Fig. 1:** Power dissipation versus peak forward current (triangular waveform,  $\delta = 0.45$ )



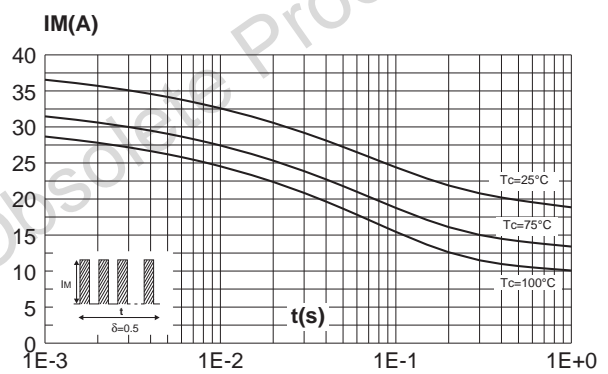
**Fig. 2:** Average forward current versus ambient temperature



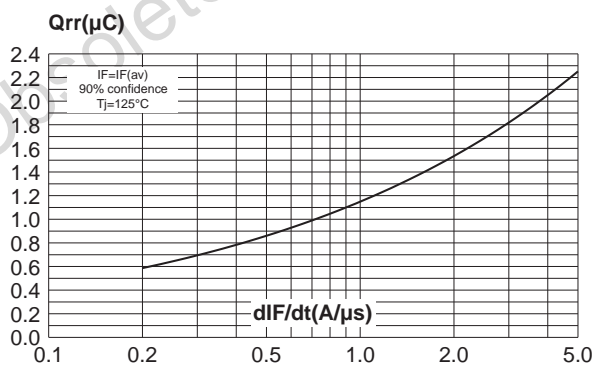
**Fig. 3:** Forward voltage drop versus forward current



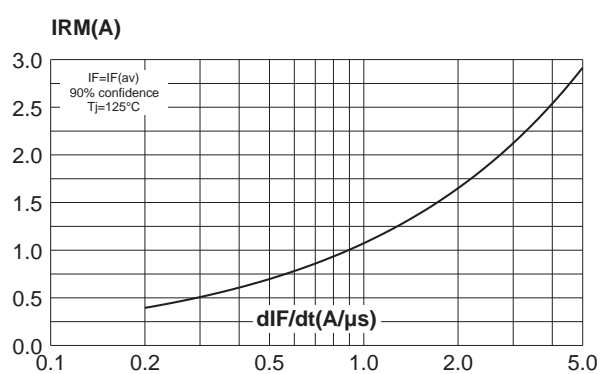
**Fig. 4:** Non repetitive surge peak forward current versus overload duration



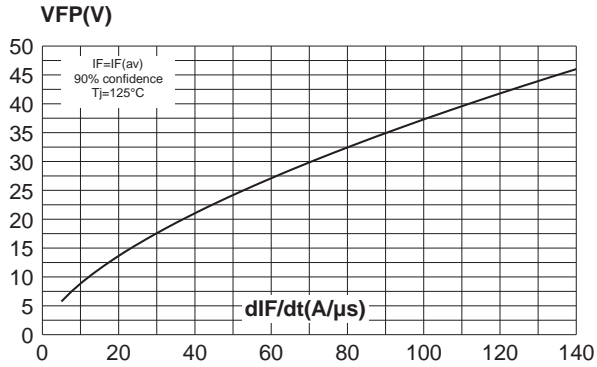
**Fig. 5:** Reverse recovery charges versus dIF/dt



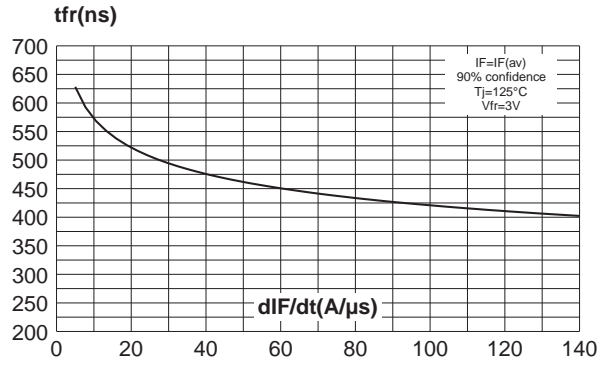
**Fig. 6:** Reverse recovery current versus dIF/dt



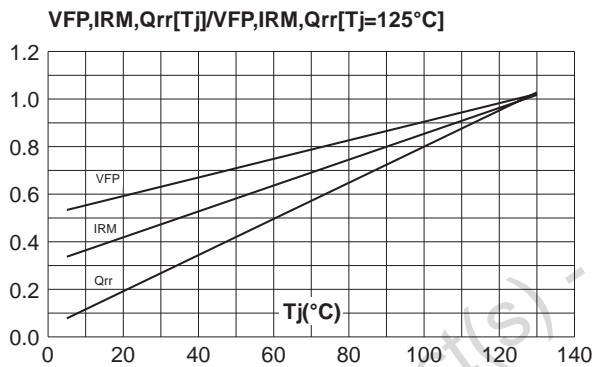
**Fig. 7:** Transient peak forward voltage versus  $dI_F/dt$



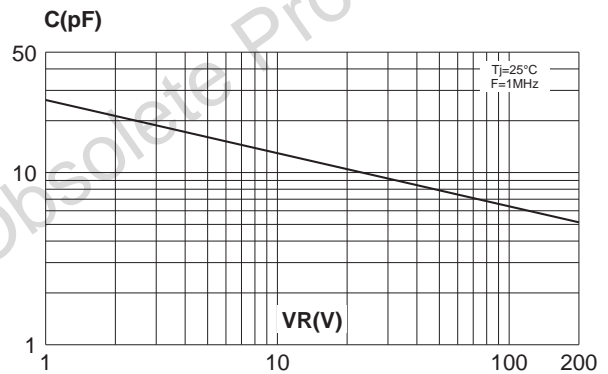
**Fig. 8:** Forward recovery time versus  $dI_F/dt$



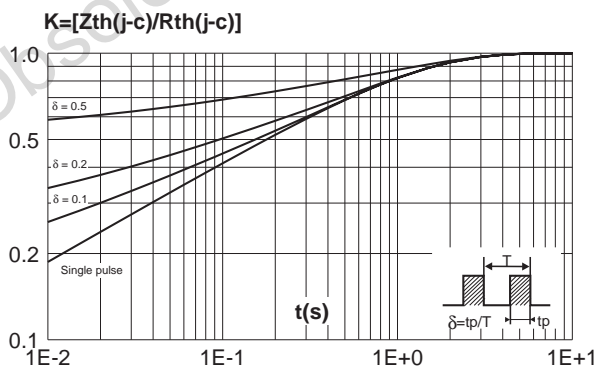
**Fig. 9:** Dynamic parameters versus junction temperature



**Fig. 10:** Junction capacitance versus reverse voltage applied (typical values)

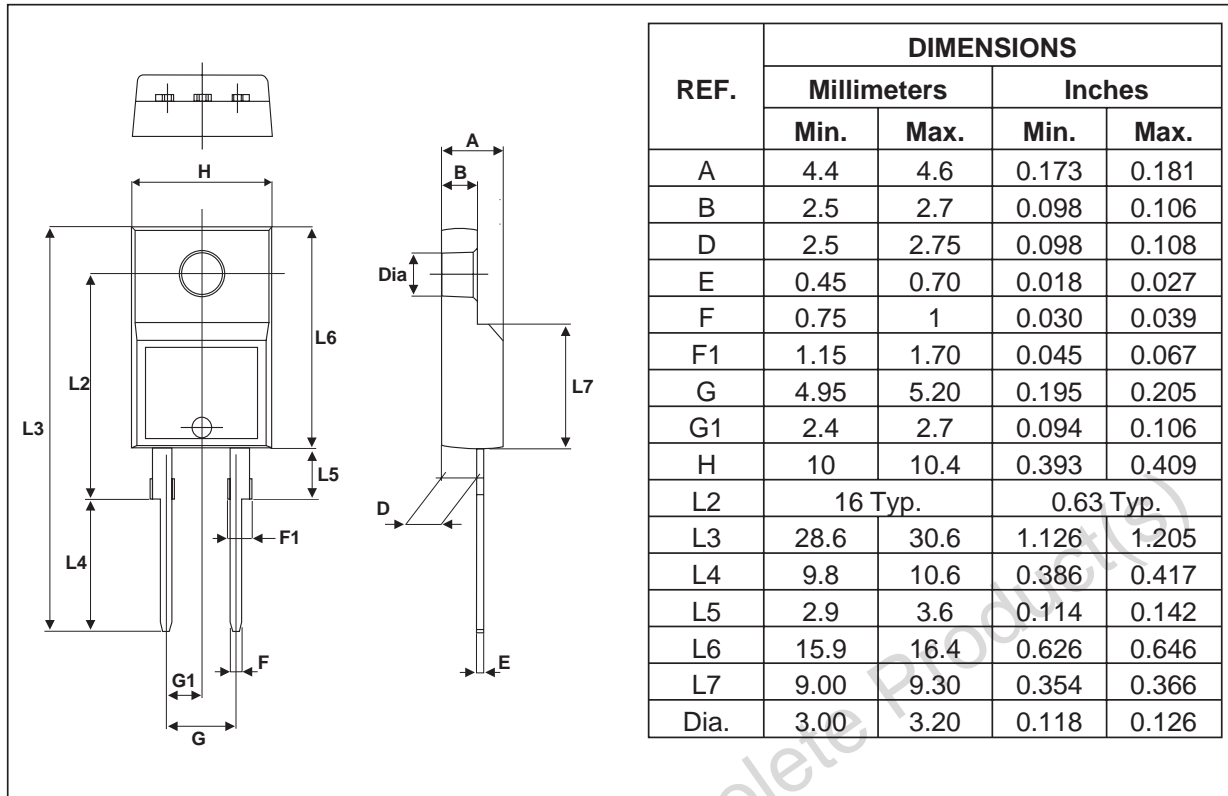


**Fig. 11:** Relative variation of thermal impedance junction to case versus pulse duration



# DTV1500LFP

## PACKAGE DATA TO-220FPAC



Type	Marking	Package	Weight	Base qty	Delivery mode
DTV1500LFP	DTV1500LFP	TO-220FPAC	1.8g	50	Tube

- Cooling method: C
- Epoxy meets UL94-V0
- Torquevalue: 0.55 m.Ntyp (0.7m.Nmax)
- Electrical Isolation: 2000V DC
- Capacitance: 12pF

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