STPS3L60

POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	3 A
V_{RRM}	60 V
Tj (max)	150°C
V_F (max)	0.61 V

DO-201AD

FEATURES AND BENEFITS

- NEGLIGIBLE SWITCHING LOSSES
- LOW THERMAL RESISTANCE

DESCRIPTION

Axial Power Schottky rectifier suited for Switch Mode Power Supplies and high frequency DC to DC converters. Packaged in DO-201AD, this device is intended for use in low voltage, high frequency inverters and small battery chargers.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive peak reverse voltage		60	V
$I_{F(RMS)}$	RMS forward current		10	A
$I_{F(AV)}$	Average forward current	T_L = 105°C δ = 0.5	3	A
I_{FSM}	Surge non repetitive forward current	tp = 10 ms Sinusoidal	100	A
T_{stg}	Storage temperature range		- 65 to + 150	°C
Tj	Maximum operating junction temperature *		150	°C
dV/dt	Critical rate of rise of reverse voltage		10000	V/µs

* : $\frac{dPtot}{dTj} < \frac{1}{Rth(j-a)}$ thermal runaway condition for a diode on its own heatsink

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-a)}$	Junction to ambient	Lead length = 10 mm	80	°C/W
$R_{th(j-l)}$	Junction to leads	Lead length = 10 mm	20	°C/W

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	Tj = 25°C	$V_R = V_{RRM}$			150	µA
		Tj = 100°C				15	mA
V_F *	Forward voltage drop	Tj = 25°C	I_F = 3 A			0.62	V
		Tj = 100°C	I_F = 3 A			0.61	

Pulse test : * tp = 380 µs, δ < 2%

To evaluate the maximum conduction losses use the following equation:

$P = 0.44 \times I_{F(AV)} + 0.05 \times I_F{}^2{}_{(RMS)}$

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

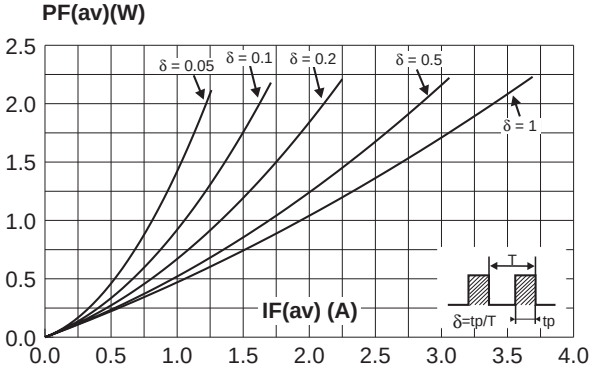


Fig. 2: Average forward current versus ambient temperature (δ = 0.5).

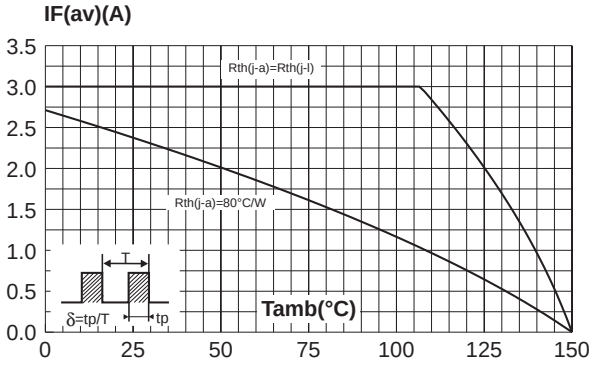


Fig. 3: Non repetitive surge peak forward current versus overload duration (maximum values).

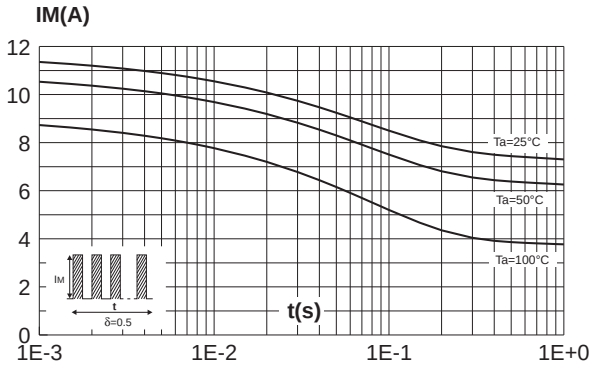


Fig. 4: Relative variation of thermal impedance junction to ambient versus pulse duration.

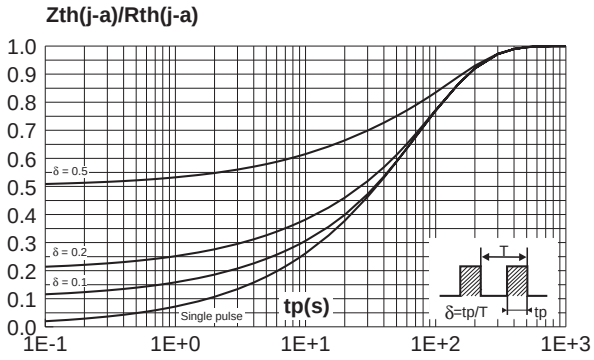


Fig. 5: Reverse leakage current versus reverse voltage applied (typical values).

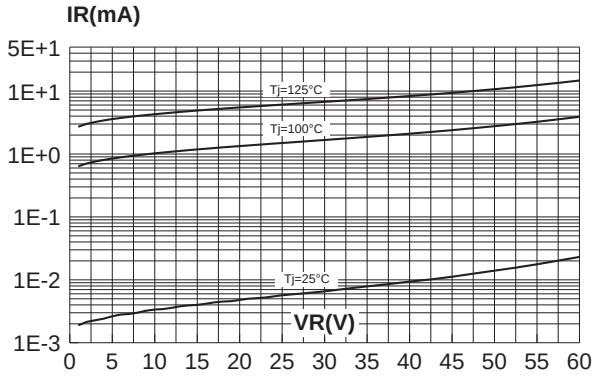


Fig. 6: Junction capacitance versus reverse voltage applied (typical values).

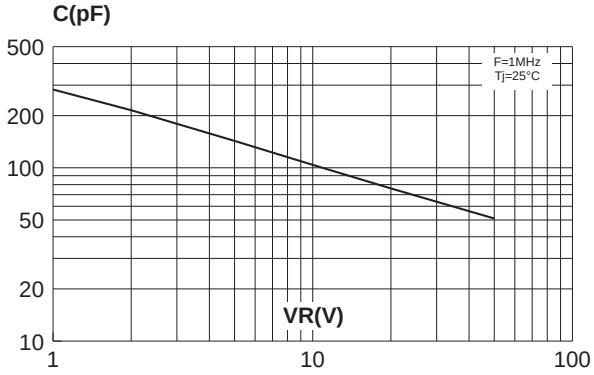


Fig. 7-1: Forward voltage drop versus forward current (low level, maximum values).

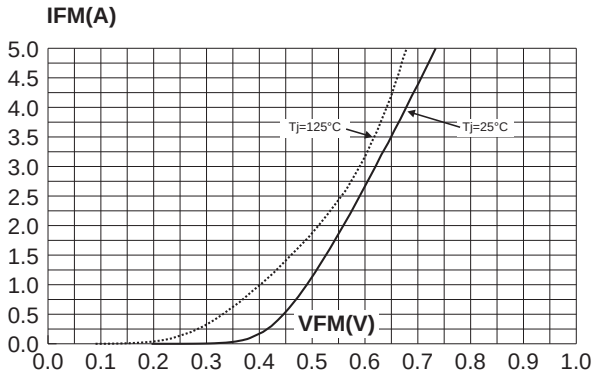
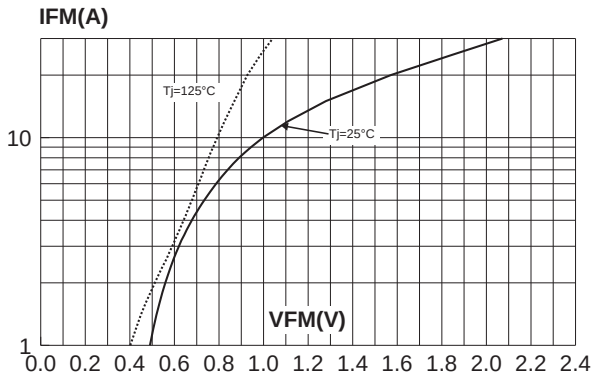
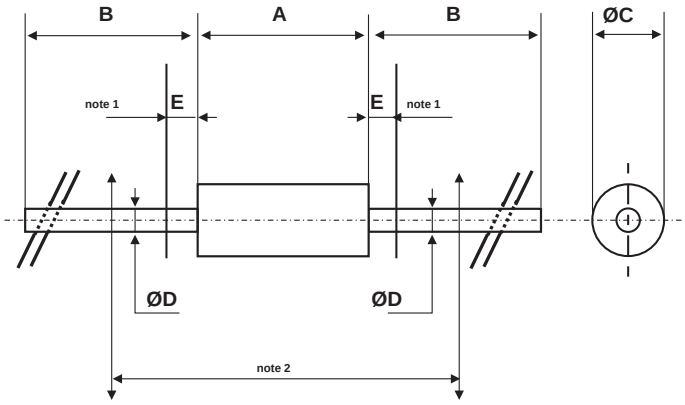


Fig. 7-2: Forward voltage drop versus forward current (high level, maximum values).



PACKAGE MECHANICAL DATA

DO-201AD plastic



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A		9.50		0.374	1 - The lead diameter ∅ D is not controlled over zone E 2 - The minimum axial length within which the device may be placed with its leads bent at right angles is 0.59"(15 mm)
B	25.40		1.000		
∅ C		5.30		0.209	
∅ D		1.30		0.051	
E		1.25		0.049	

Ordering type	Marking	Package	Weight	Base qty	Delivery mode
STPS3L60	Partnumber cathode ring	DO-201AD	1.12g	600	Ammopack
STPS3L60	Partnumber cathode ring	DO-201AD	1.12g	1900	Tape and reel

- Epoxy meets UL94,V0