

FEATURES

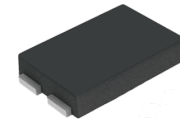
- | Low forward voltage drop, low power losses

- | Low leakage current

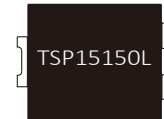
- | High efficiency

- | Very low profile - typical height of 1.1 mm

- | Heatsink design



TO-277B

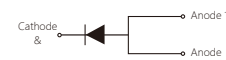


Marking

MECHANICAL DATA

- | Case: TO-277B

- | Molding compound meets UL 94 V-0 flammability



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A = 25°C)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	150	V
Maximum RMS voltage	V _{RMS}	105	V
Maximum DC Blocking Voltage	V _{DS}	150	V
Maximum Average Forward Rectified Current	I _{F(AV)} ¹⁾	15	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	250	A
Operating junction and storage temperature range	T _J , T _{STG}	-55 to 150	°C

Notes:

1) The thermal resistance from junction to ambient, case or mount, mounted on P.C.B with 30x30mm copper pads, 2 OZ, FR4 PCB

ELECTRICAL CHARACTERISTICS($T_A=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions		Min.	Typ.	Max.	Unit
Maximum instantaneous forward voltage	V_F	$I_F=15\text{A}$	$T_A=25^\circ\text{C}$			0.86	Volts
Maximum DC reverse current at rated DC blocking voltage	I_R	Rated V_R	$T_A=25^\circ\text{C}$			0.015	mA
Typical thermal resistance ¹⁾	$R_{\theta JA}$	junction to ambient				110	$^\circ\text{C}/\text{W}$
	$R_{\theta JC}$	junction to case				65	
	$R_{\theta JM}$	junction to mount				40	

CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

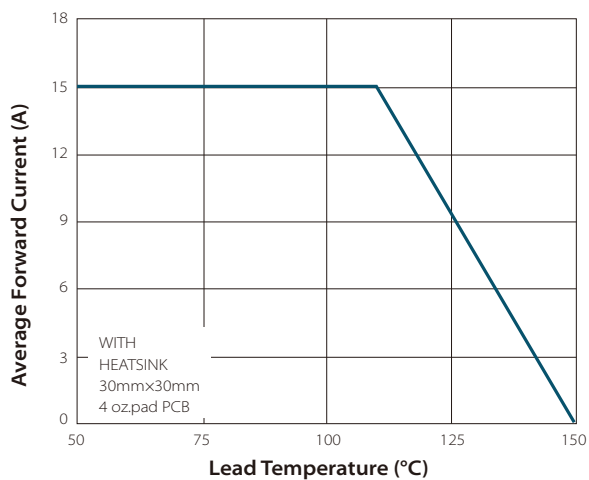


Fig.2 Typical Forward Characteristics

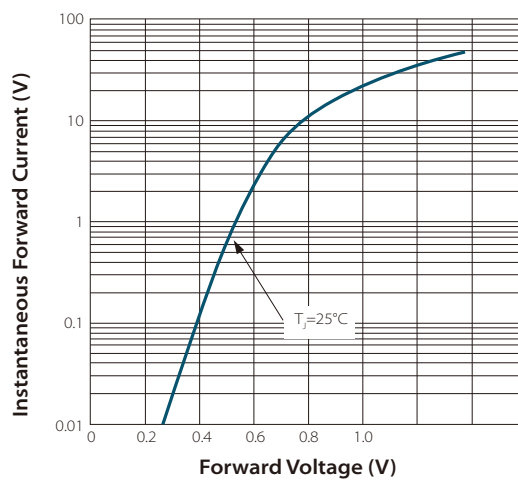
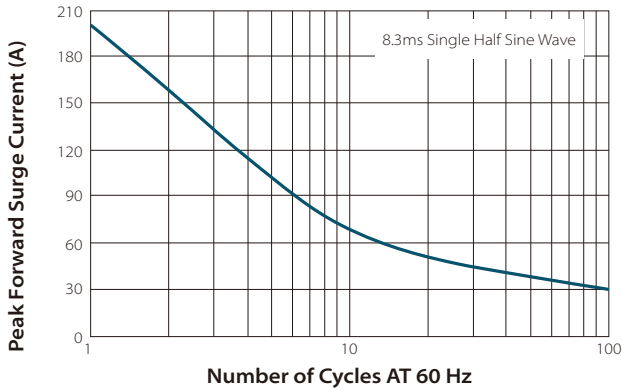
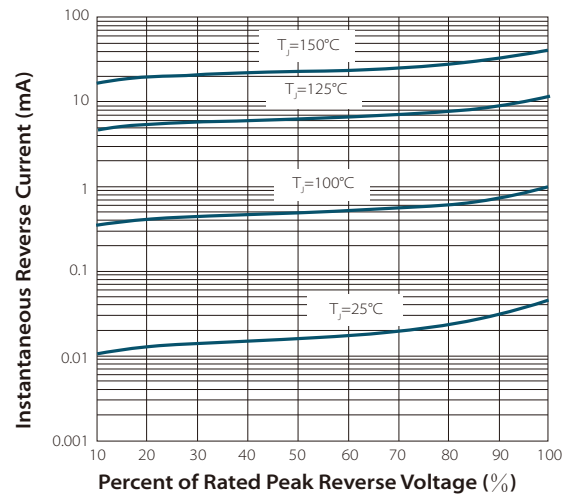
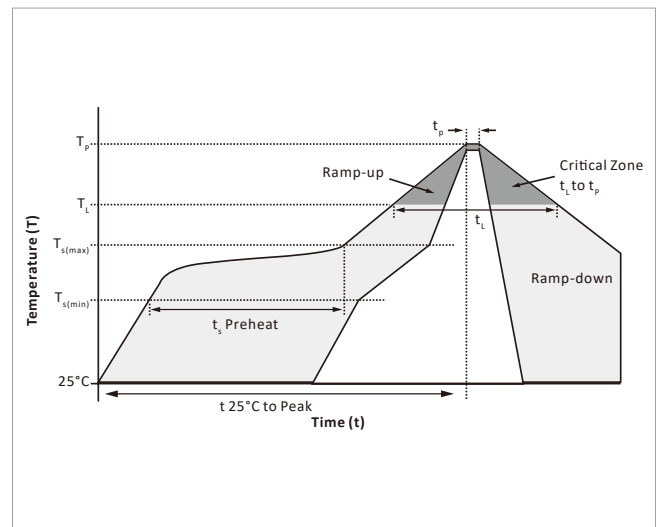


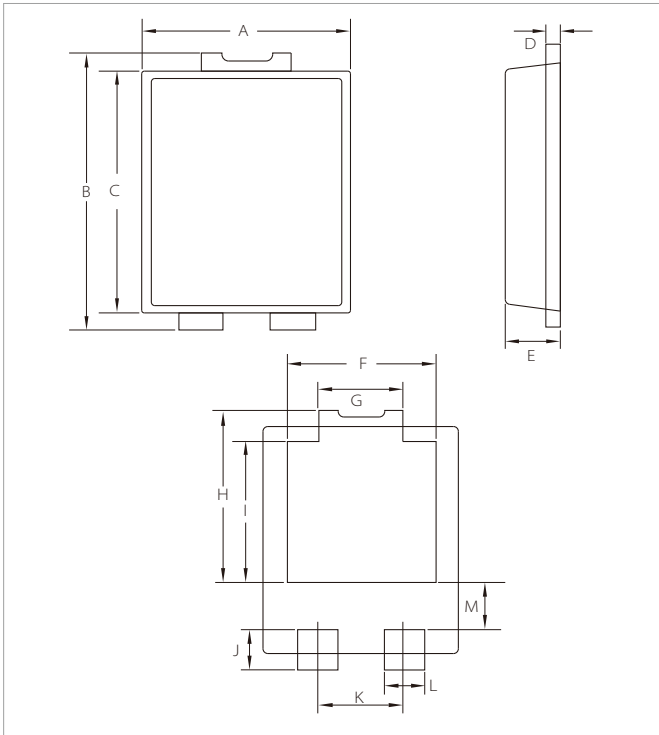
Fig.3 Maximum Non-Repetitive Peak Forward Surge Current

Fig.4 Typical Reverse Characteristics


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

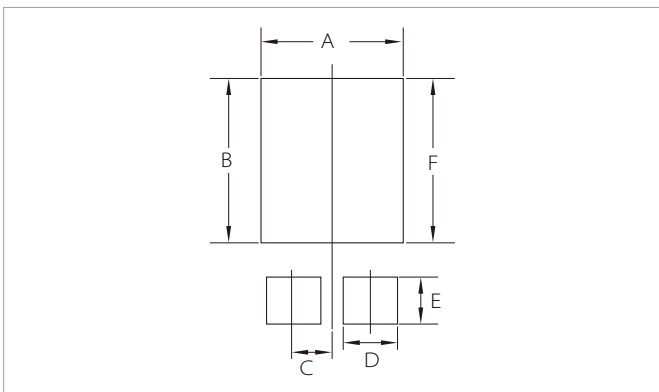


TO-277B PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.00	4.60	0.157	0.181
B	6.20	6.80	0.244	0.268
C	5.50	6.00	0.216	0.236
D	0.25	0.40	0.010	0.016
E	1.05	1.35	0.041	0.053
F	3.00	3.50	0.118	0.138
G	1.70	2.00	0.067	0.079
H	4.20	4.50	0.165	0.177
I	3.52Nom		0.139Nom	
J	0.85	1.10	0.033	0.043
K	1.86Nom		0.073Nom	
L	0.80	1.00	0.031	0.039
M	1.10	1.40	0.043	0.055

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.40	-	0.134	-
B	6.90		0.272	
C	0.95		0.037	
D	1.30	-	0.051	-
E	1.30	-	0.051	-
F	4.60	-	0.181	-

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TSP15150L	TO-277B	5000PCS	13"

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