

Features:

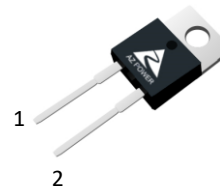
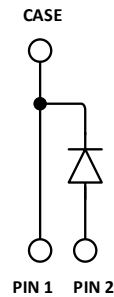
- 650V Schottky Diode
- Zero Reverse Recovery Current
- High Frequency Operation
- Positive Temperature Coefficient
- Temperature independent

Switching

Benefits:

- Unipolar Rectifier
- Minimal switching loss
- Higher Efficiency
- Low cooling requirement

Symbol	Value	Unit
V_{RRM}	650	V
I_F ($T_C=154^\circ\text{C}$)	8	A
Q_C	28	nC

Outline

TO-220-2L
Circuit

Applications:

- Switch Mode Power Supply
- Booster diodes in PFC, DC/DC
- AC/DC converters

Maximum Ratings

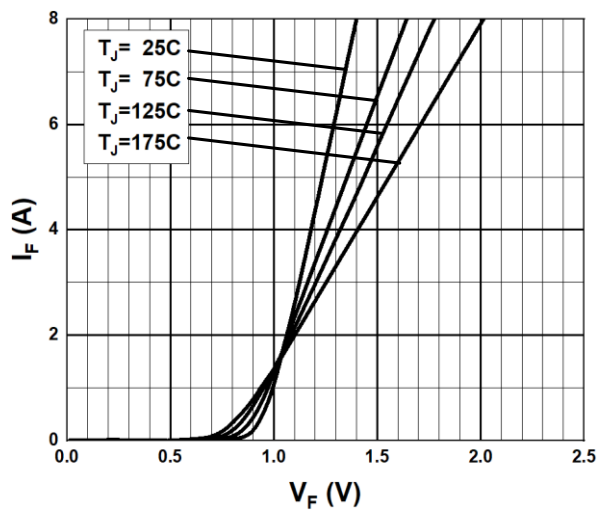
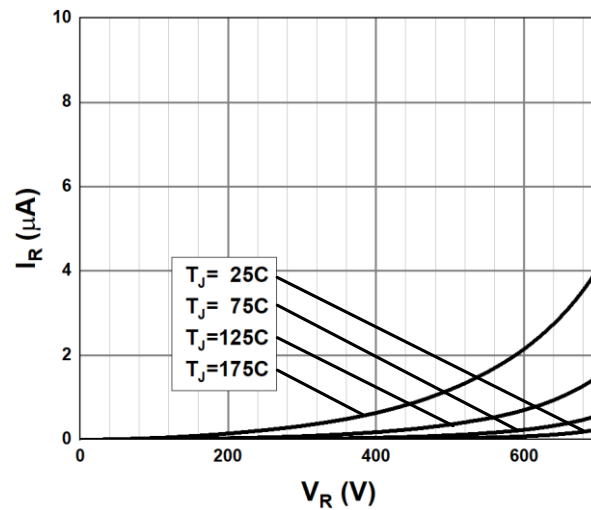
Symbol	Parameter	Value	Unit	Test Conditions
V_R	DC Peak Reverse Voltage	650	V	$T_J=25^\circ\text{C}$
V_{RRM}	Repetitive Peak Reverse Voltage	650	V	$T_J=25^\circ\text{C}$
V_{RSM}	Surge Peak Reverse Voltage	650	V	$T_J=25^\circ\text{C}$
I_F	Continuous Forward Current	26	A	$T_C=25^\circ\text{C}$
		12		$T_C=135^\circ\text{C}$
		8		$T_C=154^\circ\text{C}$
I_{FRM}	Repetitive Peak Forward Surge Current	56	A	$T_C=25^\circ\text{C}$, $T_P=10\text{ms}$, Half Sine Wave
		50		$T_C=125^\circ\text{C}$, $T_P=10\text{ms}$, Half Sine Wave
I_{FSM}	Non-Repetitive Peak Forward Surge Current	74	A	$T_C=25^\circ\text{C}$, $T_P=10\text{ms}$, Half Sine Wave
		67		$T_C=125^\circ\text{C}$, $T_P=10\text{ms}$, Half Sine Wave
P_D	Power Dissipation	125	W	$T_C=25^\circ\text{C}$
		41.7		$T_C=125^\circ\text{C}$
$T_{J,max}$	Operating Junction Temperature	175	$^\circ\text{C}$	
T_{stg}	Storage Temperature Range	-55 to 175	$^\circ\text{C}$	

Thermal characteristics

Symbol	Parameter	Min.	Typ.	Max.	Unit
R_{thJC}	Thermal Resistance		1.2		$^{\circ}\text{C}/\text{W}$

Electrical Characteristics

Symbol	Parameter	Value			Unit	Test Conditions
		Min.	Typ.	Max.		
V_{DC}	DC Blocking Voltage	650			V	$I_R=100\mu\text{A}$, $T_J=25^{\circ}\text{C}$
V_F	Forward Voltage		1.4 2.0	1.7 2.4	V	$I_F=8\text{A}$, $T_J=25^{\circ}\text{C}$ $I_F=8\text{A}$, $T_J=175^{\circ}\text{C}$
I_R	Reverse Current		1 10	30 100	μA	$V_R=650\text{V}$, $T_J=25^{\circ}\text{C}$ $V_R=650\text{V}$, $T_J=175^{\circ}\text{C}$
Q_C	Total Capacitive Charge		28		nC	$I_F=8\text{A}$, $dI/dt=400\text{A}/\mu\text{s}$ $T_J=25^{\circ}\text{C}$, $V_R=400\text{V}$
C	Total Capacitance		329 45 43		pF	$V_R=1\text{V}$, $T_J=25^{\circ}\text{C}$, $f=1\text{ MHz}$ $V_R=200\text{V}$, $T_J=25^{\circ}\text{C}$, $f=1\text{ MHz}$ $V_R=400\text{V}$, $T_J=25^{\circ}\text{C}$, $f=1\text{ MHz}$

Typical Performance

Fig. 1 Forward Characteristics

Fig. 2 Reverse Characteristics

Typical Performance

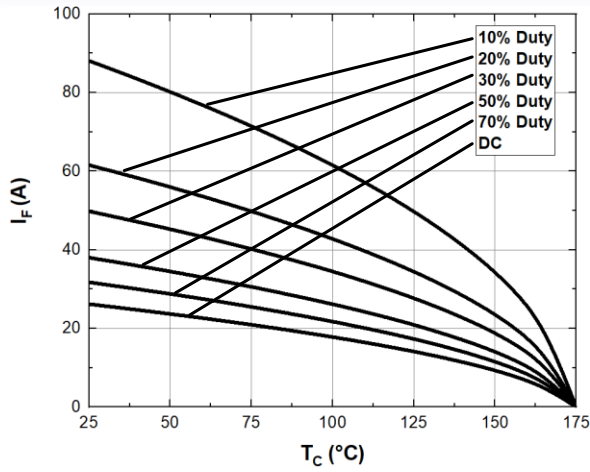


Fig. 3 Current Derating

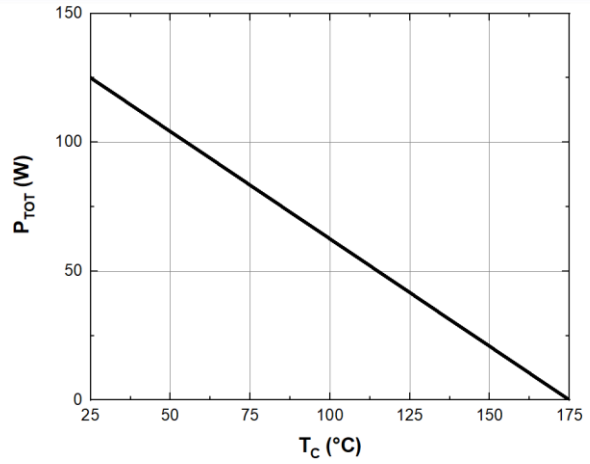


Fig. 4 Power Derating

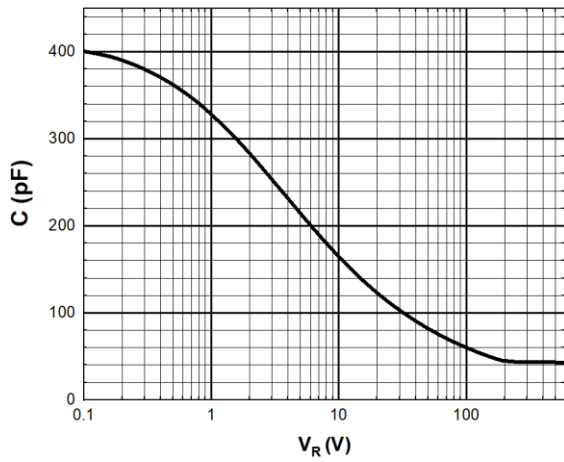


Fig. 5 Capacitance vs. Reverse Voltage

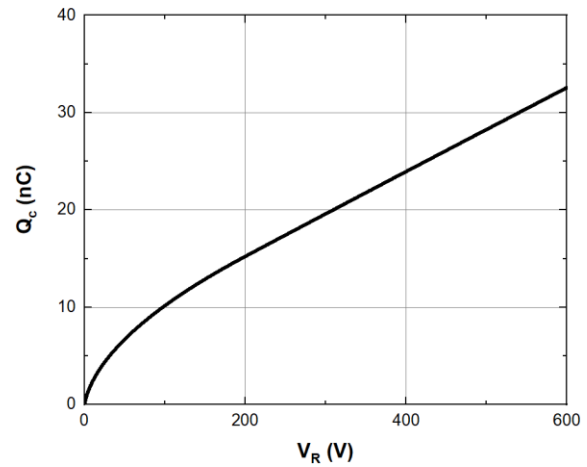


Fig. 6 Recovery Charge vs. Reverse Voltage

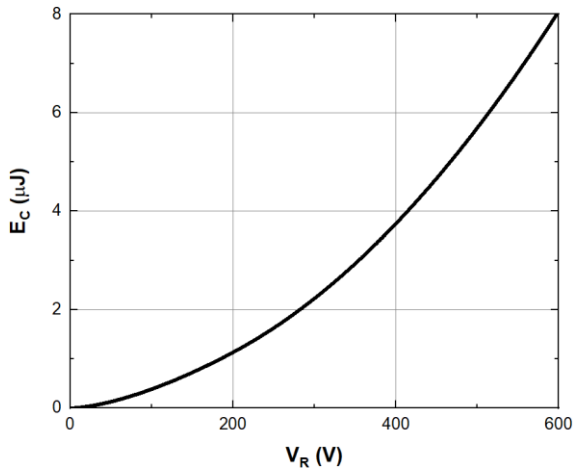


Fig. 7 Capacitance stored Energy

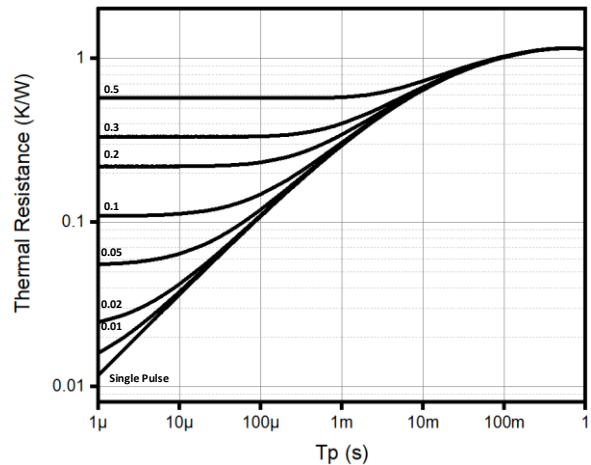
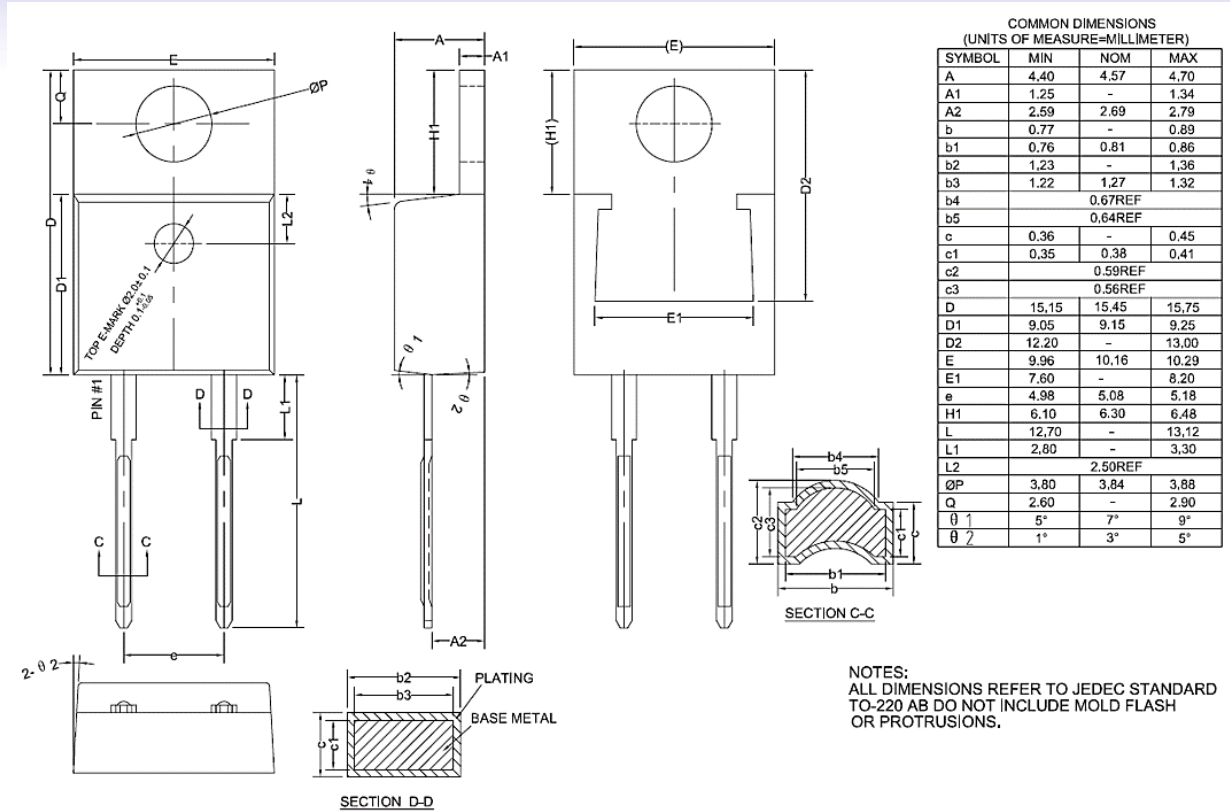


Fig. 7 Thermal Impedance

Package TO-220-2L (Unit: mm)



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