

Features:

- 1200V Schottky Diode
- Zero Reverse Recovery Current
- High Frequency Operation
- Positive Temperature Coefficient
- Temperature independent

Switching

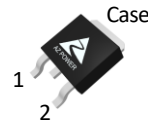
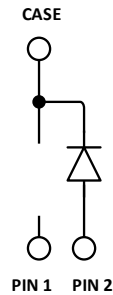
Benefits:

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

Symbol	Value	Unit
V_{RRM}	1200	V
I_F ($T_C=132^\circ\text{C}$)	5	A
Q_C	19	nC

Applications:

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

Outline

TO-252-2
Circuit

Maximum Ratings

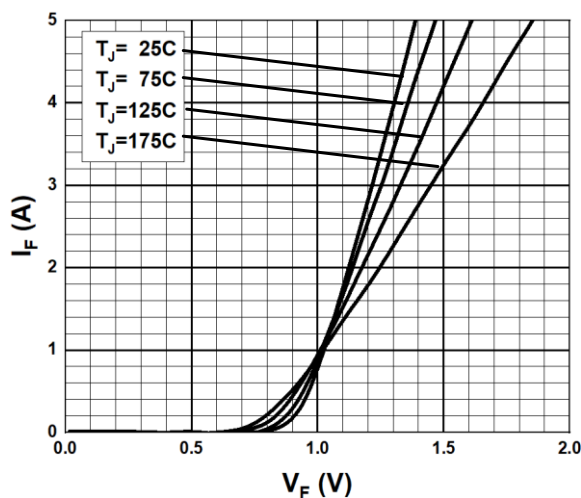
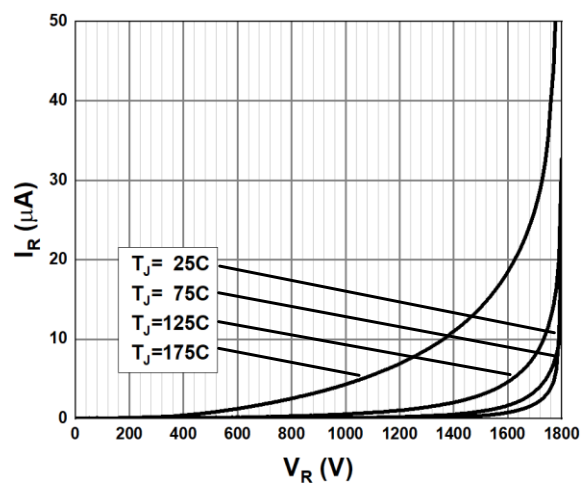
Symbol	Parameter	Value	Unit	Test Conditions
V_R	DC Peak Reverse Voltage	1200	V	$T_J = 25^\circ\text{C}$
V_{RRM}	Repetitive Peak Reverse Voltage	1200	V	$T_J = 25^\circ\text{C}$
V_{RSM}	Surge Peak Reverse Voltage	1300	V	$T_J = 25^\circ\text{C}$
I_F	Continuous Forward Current	11	A	$T_C = 25^\circ\text{C}$
		8.6		$T_C = 75^\circ\text{C}$
		5		$T_C = 132^\circ\text{C}$
I_{FRM}	Repetitive Peak Forward Surge Current	64	A	$T_C = 25^\circ\text{C}$, $T_P = 10\text{ms}$, Half Sine Wave
		48		$T_C = 125^\circ\text{C}$, $T_P = 10\text{ms}$, Half Sine Wave
I_{FSM}	Non-Repetitive Peak Forward Surge Current	86	A	$T_C = 25^\circ\text{C}$, $T_P = 10\text{ms}$, Half Sine Wave
		73		$T_C = 125^\circ\text{C}$, $T_P = 10\text{ms}$, Half Sine Wave
P_D	Power Dissipation	33.3	W	$T_C = 25^\circ\text{C}$
		11.1		$T_C = 125^\circ\text{C}$
$T_{J,max}$	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		4.5		$^{\circ}\text{C}/\text{W}$

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 1.9	1.7 2.4	V	$I_F=5\text{A}$, $T_J=25^{\circ}\text{C}$ $I_F=5\text{A}$, $T_J=175^{\circ}\text{C}$
I_R	Reverse Current		1 10	50 200	μA	$V_R=1200\text{V}$, $T_J=25^{\circ}\text{C}$ $V_R=1200\text{V}$, $T_J=175^{\circ}\text{C}$
Q_C	Total Capacitive Charge		45		nC	$I_F=5\text{A}$, $dI/dt=400\text{A}/\mu\text{s}$ $T_J=25^{\circ}\text{C}$, $V_R=800\text{V}$
C	Total Capacitance		232 41 33		pF	$V_R=1\text{V}$, $T_J=25^{\circ}\text{C}$, $f=1\text{ MHz}$ $V_R=400\text{V}$, $T_J=25^{\circ}\text{C}$, $f=1\text{ MHz}$ $V_R=800\text{V}$, $T_J=25^{\circ}\text{C}$, $f=1\text{ MHz}$

Typical Performance

Fig. 1 Forward Characteristics

Fig. 2 Reverse Characteristics

Typical Performance

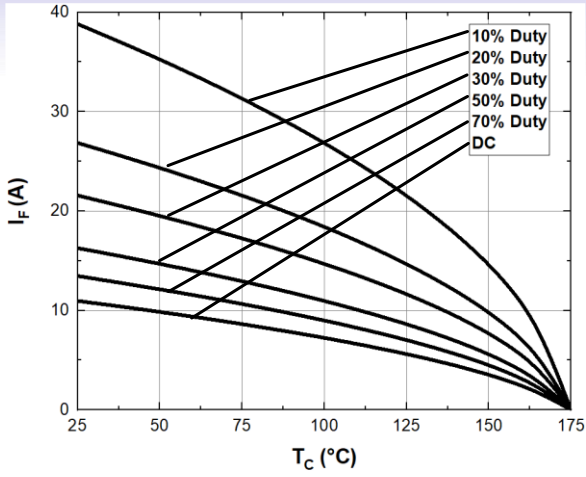


Fig. 3 Current Derating

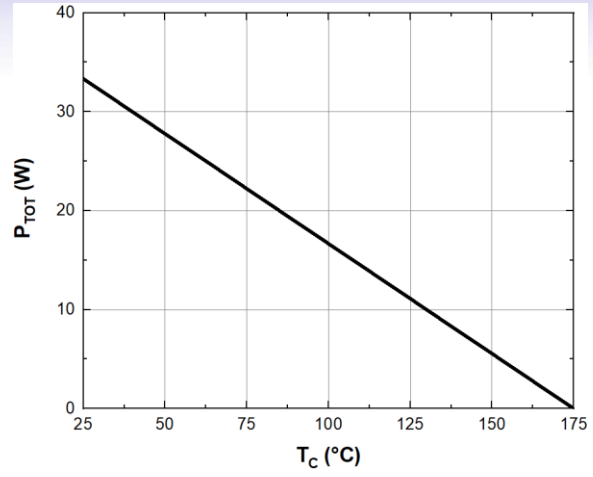


Fig. 4 Power Derating

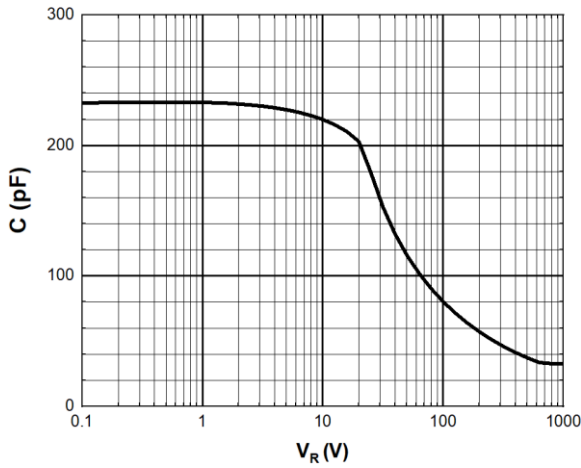


Fig. 5 Capacitance vs. Reverse Voltage

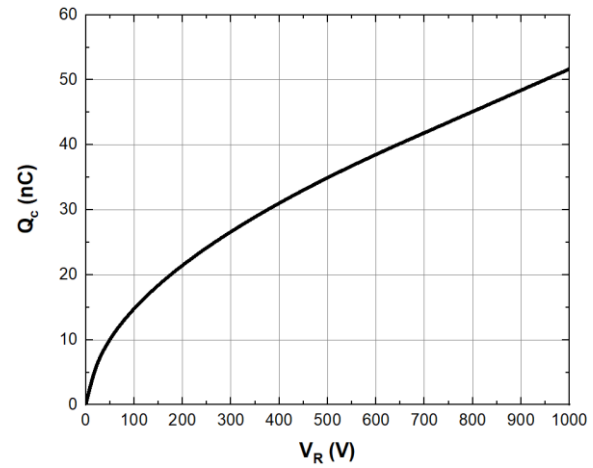


Fig. 6 Recovery Charge vs. Reverse Voltage

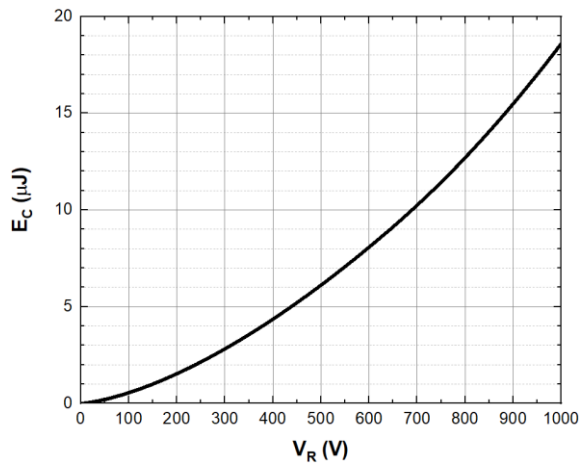


Fig. 7 Capacitance stored Energy

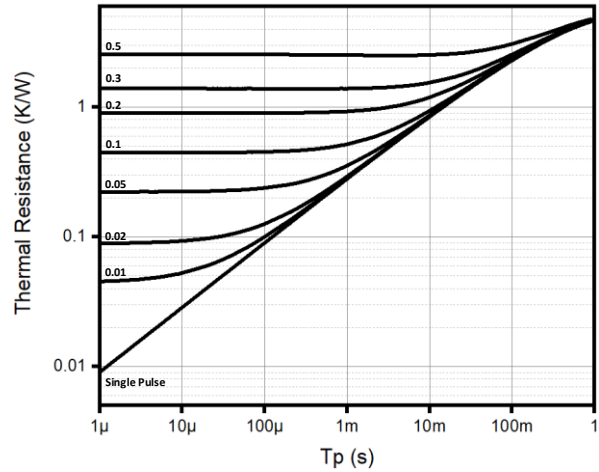
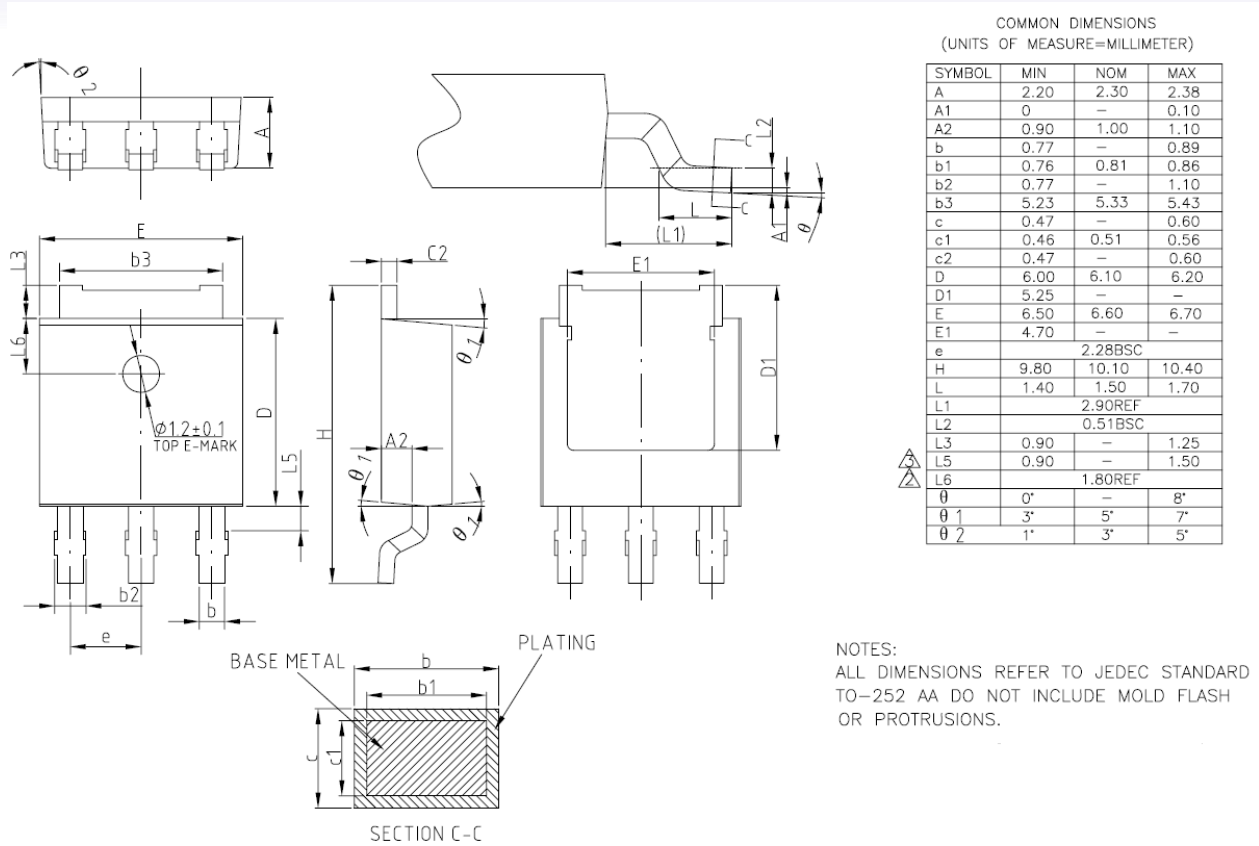


Fig. 8 Thermal Impedance

Package TO-252-2 (Unit: mm)


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