

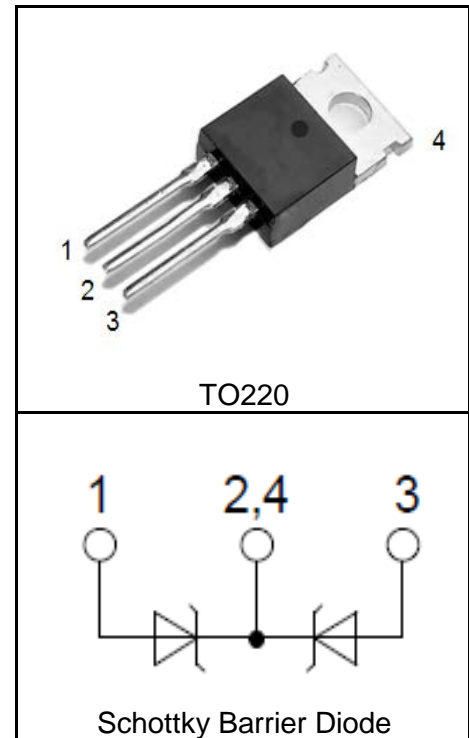
Features

- $V_{RRM} = 150V$
 $I_{F(AV)} = 2 \times 10A$
- Low Power Loss and High Efficiency
- High Surge Capability
- Low Leakage Current
- Low Forward Voltage Drop
- Lead Free and Green Devices Available

Applications

- Rectifiers in SMPS
- Free Wheeling Diode
- DC-DC Converters

Pin Description



Absolute Maximum Ratings

Symbol	Parameter	Rating	Unit	
Common Ratings ($T_C = 25^\circ C$ Unless Otherwise Noted)				
V_{RRM}	Maximum Repetitive Reverse Voltage	150	V	
V_R	Maximum DC Reverse Voltage	150	V	
$I_{F(AV)}$	Average Rectified Forward Current, $T_C = 130^\circ C$	per Device	20	A
		per Diode	10	A
I_{FSM}	Peak Forward Surge Current, 8.3ms Half Sine Wave	150	A	
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$	
T_J	Operating Junction Temperature	150	$^\circ C$	
Mounted on Large Heat Sink				
$R_{\theta JC}$	Thermal Resistance-Junction to Case	1.5	$^\circ C/W$	
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient	62.5	$^\circ C/W$	

Electrical Characteristics ($T_C=25^{\circ}\text{C}$ Unless Otherwise Noted)

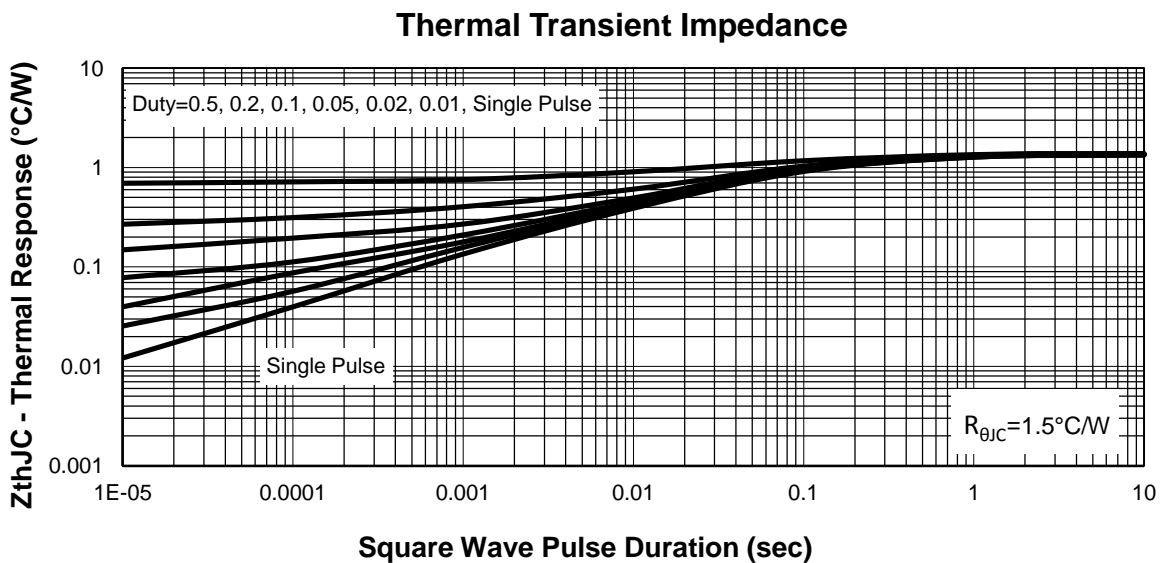
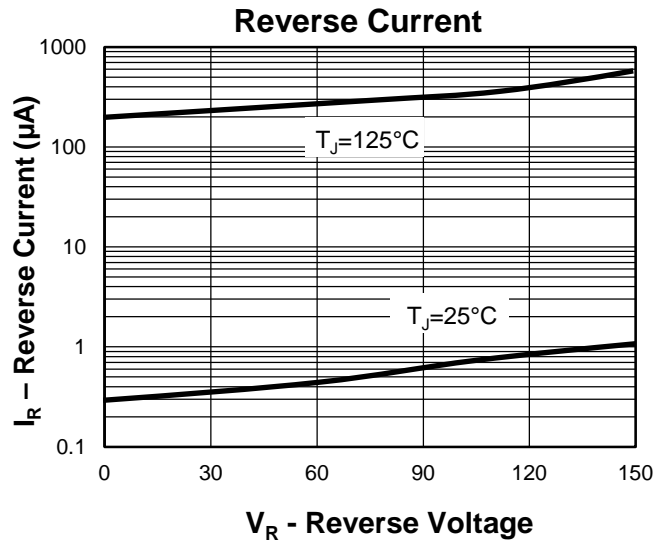
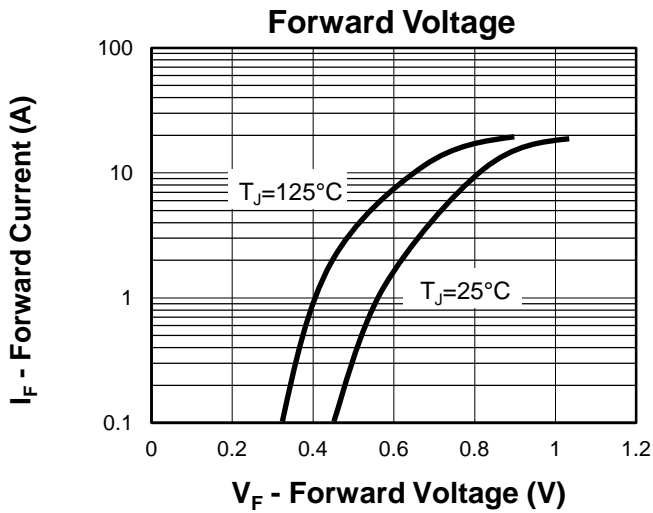
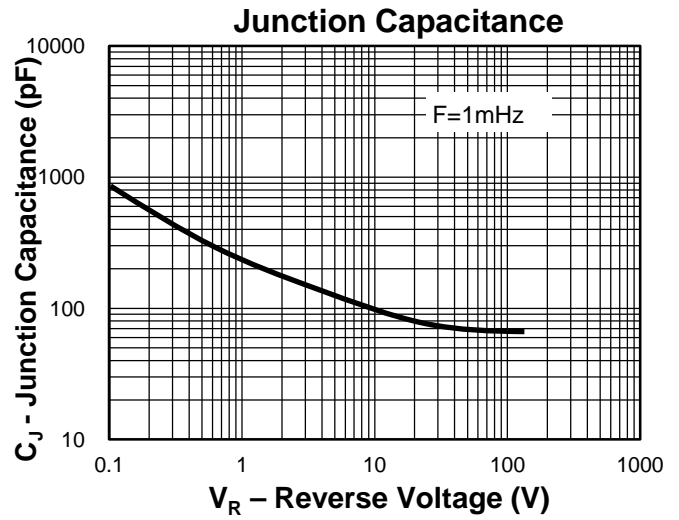
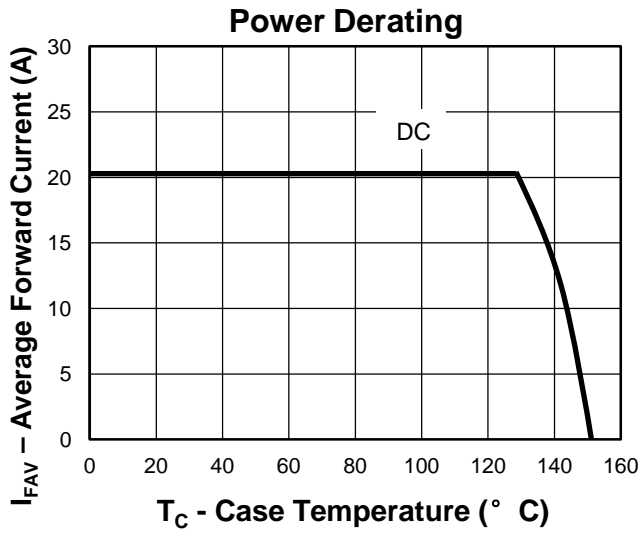
Symbol	Parameter	Test Condition	RUS1Z20R2			Unit
			Min.	Typ.	Max.	
Static Characteristics						
$I_R^{\text{①}}$	Reverse Leakage Current	$V_R=150\text{V}, T_C=25^{\circ}\text{C}$			100	μA
		$V_R=150\text{V}, T_C=125^{\circ}\text{C}$			5	mA
$V_F^{\text{①}}$	Forward Voltage Drop	$I_F=5\text{A}, T_C=25^{\circ}\text{C}$		0.75	-	V
		$I_F=5\text{A}, T_C=125^{\circ}\text{C}$		0.65	-	V
		$I_F=10\text{A}, T_C=25^{\circ}\text{C}$		0.85	0.9	V
		$I_F=10\text{A}, T_C=125^{\circ}\text{C}$		0.75	0.8	V

Notes: ① Pulse test, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

Ordering and Marking Information

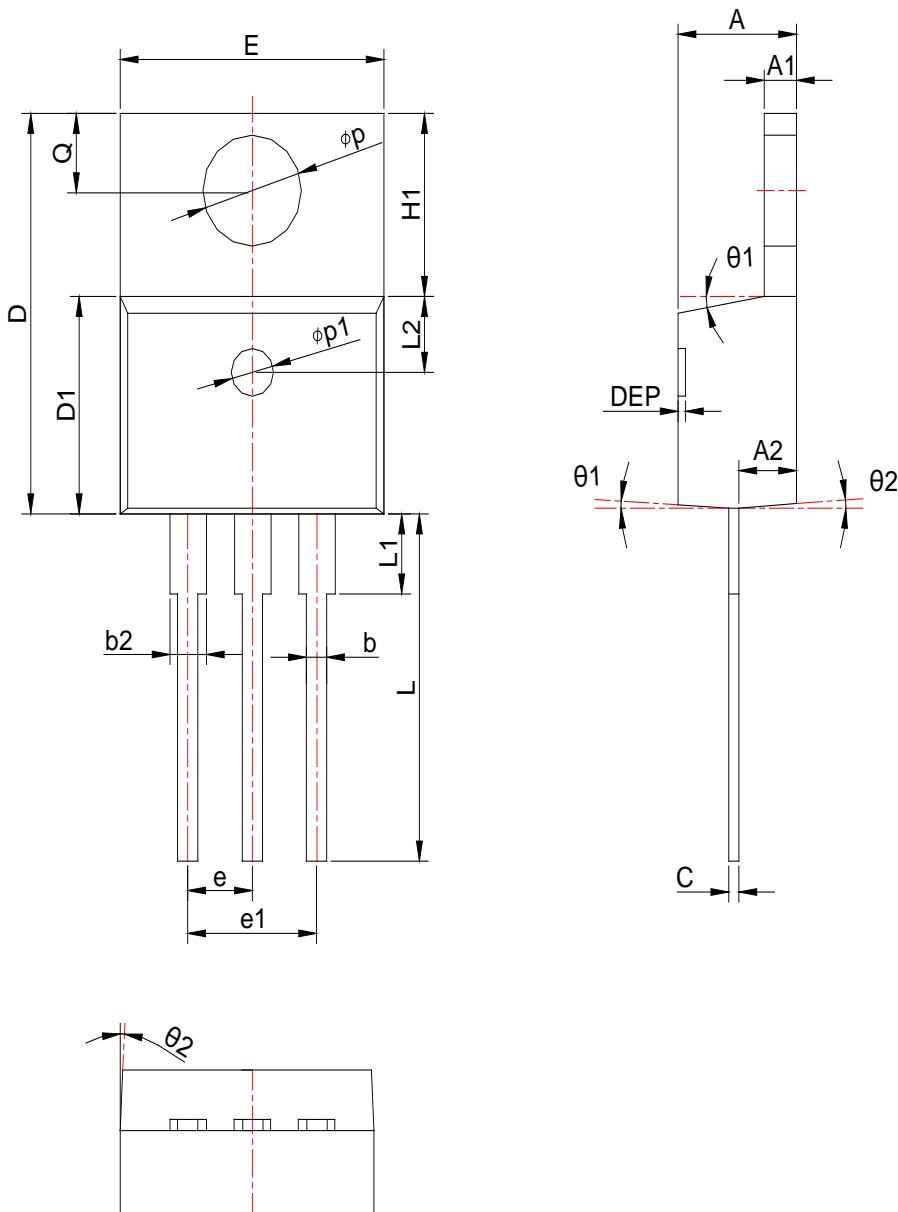
Device	Marking	Package	Packaging	Quantity	Reel Size	Tape width
RUS1Z20R2	RUS1Z20R2	TO220(AB)	Tube	50	-	-

Typical Characteristics



Package Information

TO220(AB)



SYMBOL	MM			INCH			SYMBOL	MM			INCH		
	MIN	NOM	MAX	MIN	NOM	MAX		MIN	NOM	MAX	MIN	NOM	MAX
A	4.40	4.55	4.70	0.173	0.179	0.185	H1	6.10	6.30	6.50	0.240	0.248	0.256
A1	1.22	1.27	1.32	0.048	0.050	0.052	L	13.20	13.35	13.50	0.520	0.526	0.531
A2	2.59	2.69	2.79	0.102	0.106	0.110	L1	*	*	4.35	*	*	0.171
b	0.77	0.84	0.90	0.030	0.033	0.035	L2	2.50REF			0.098REF		
b2	1.23	1.30	1.36	0.048	0.051	0.054	Φ_p	3.76	3.82	3.88	0.148	0.150	0.153
c	0.34	0.41	0.47	0.013	0.016	0.019	Q	2.60	2.75	2.90	0.102	0.108	0.114
D	14.70	15.00	15.30	0.579	0.591	0.602	θ_1	5°	7°	9°	5°	7°	9°
D1	8.60	8.70	8.80	0.339	0.343	0.346	θ_2	1°	3°	5°	1°	3°	5°
E	10.06	10.16	10.26	0.396	0.400	0.404	DEP	0.05	0.13	0.20	0.002	0.005	0.008
e	2.54BSC			0.100BSC			Φ_{p1}	1.40	1.50	1.60	0.055	0.059	0.063
e1	5.08BSC			0.200BSC									

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