

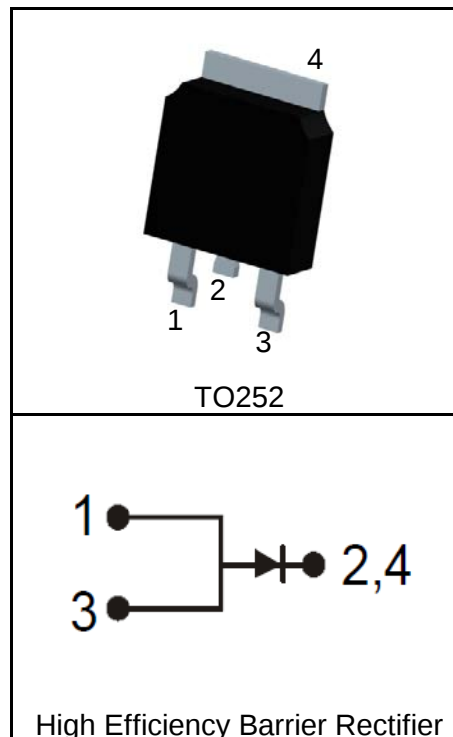
Features

- $V_{RRM} = 45V$
 $I_{F(AV)} = 10A$
- HEBR® Technology
- Ultra-Low Forward Voltage Drop
- Low Power Loss and High Efficiency
- High Surge Capability
- Low Leakage Current
- 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)			
$V_{RRM}^{①}$	Maximum Repetitive Reverse Voltage	45	V
$V_R^{①}$	Maximum DC Reverse Voltage	45	V
$V_{R(RMS)}^{①}$	RMS Reverse Voltage	32	V
$I_{F(AV)}$	Average Rectified Forward Current, $T_C = 130^\circ C$	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 Range	-55 to 150	$^\circ C$
Mounted on Large Heat Sink			
$R_{\theta JC}$	Thermal Resistance-Junction to Case	2	$^\circ C/W$
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient	100	$^\circ C/W$

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

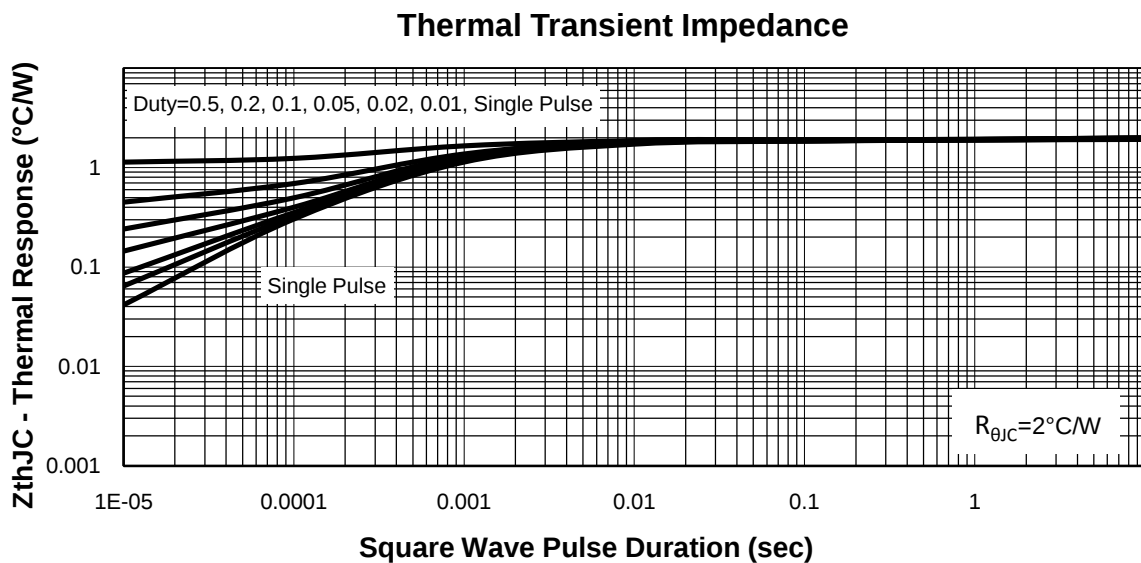
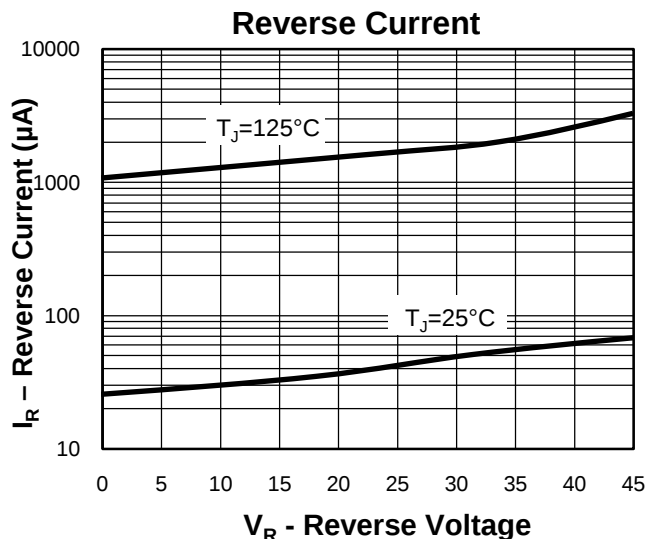
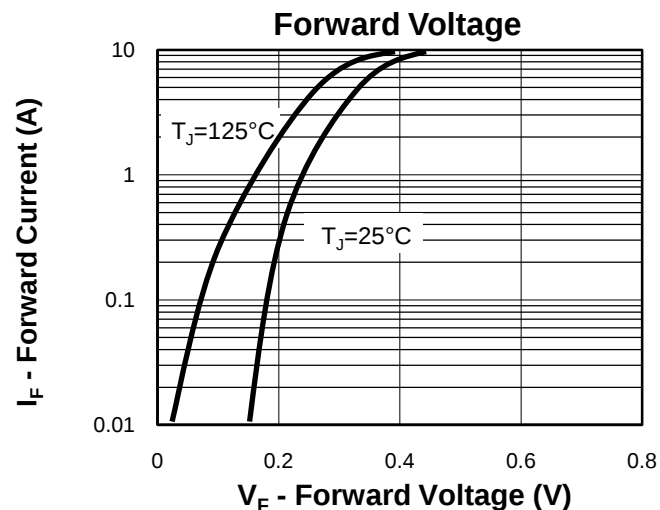
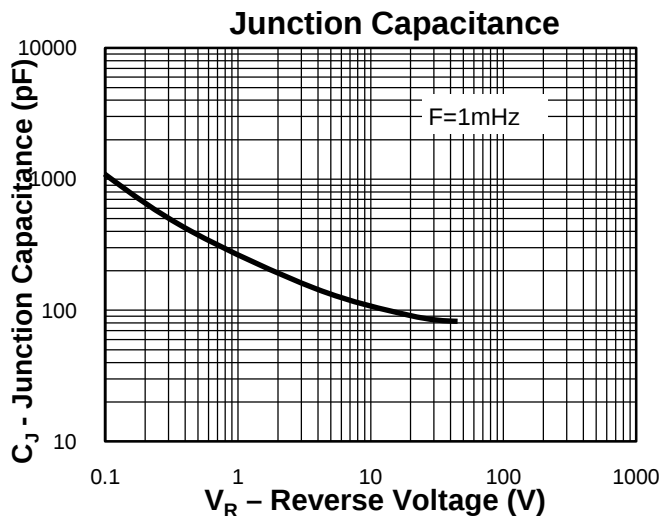
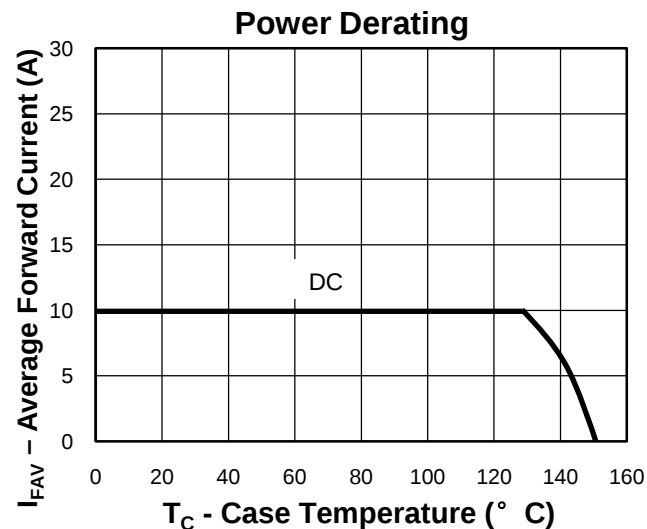
Symbol	Parameter	Test Condition	RUS4510L			Unit
			Min.	Typ.	Max.	
Static Characteristics						
$V_{(BR)R}^{②}$	Reverse Breakdown Voltage	$I_R=300\mu A$	45			V
$I_R^{②}$	Reverse Leakage Current	$V_R=45V, T_C=25^{\circ}C$			300	μA
		$V_R=45V, T_C=125^{\circ}C$			5	mA
$V_F^{②}$	Forward Voltage Drop	$I_F=2A, T_C=25^{\circ}C$		0.3	0.33	V
		$I_F=5A, T_C=25^{\circ}C$		0.36	0.4	V
		$I_F=10A, T_C=25^{\circ}C$		0.42	0.48	V
		$I_F=10A, T_C=125^{\circ}C$		0.37	0.43	V

Notes: ① For $T_A > 25^{\circ}\text{C}$ the derating of V_R and I_F has to be considered.
 ② Pulse test, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

Ordering and Marking Information

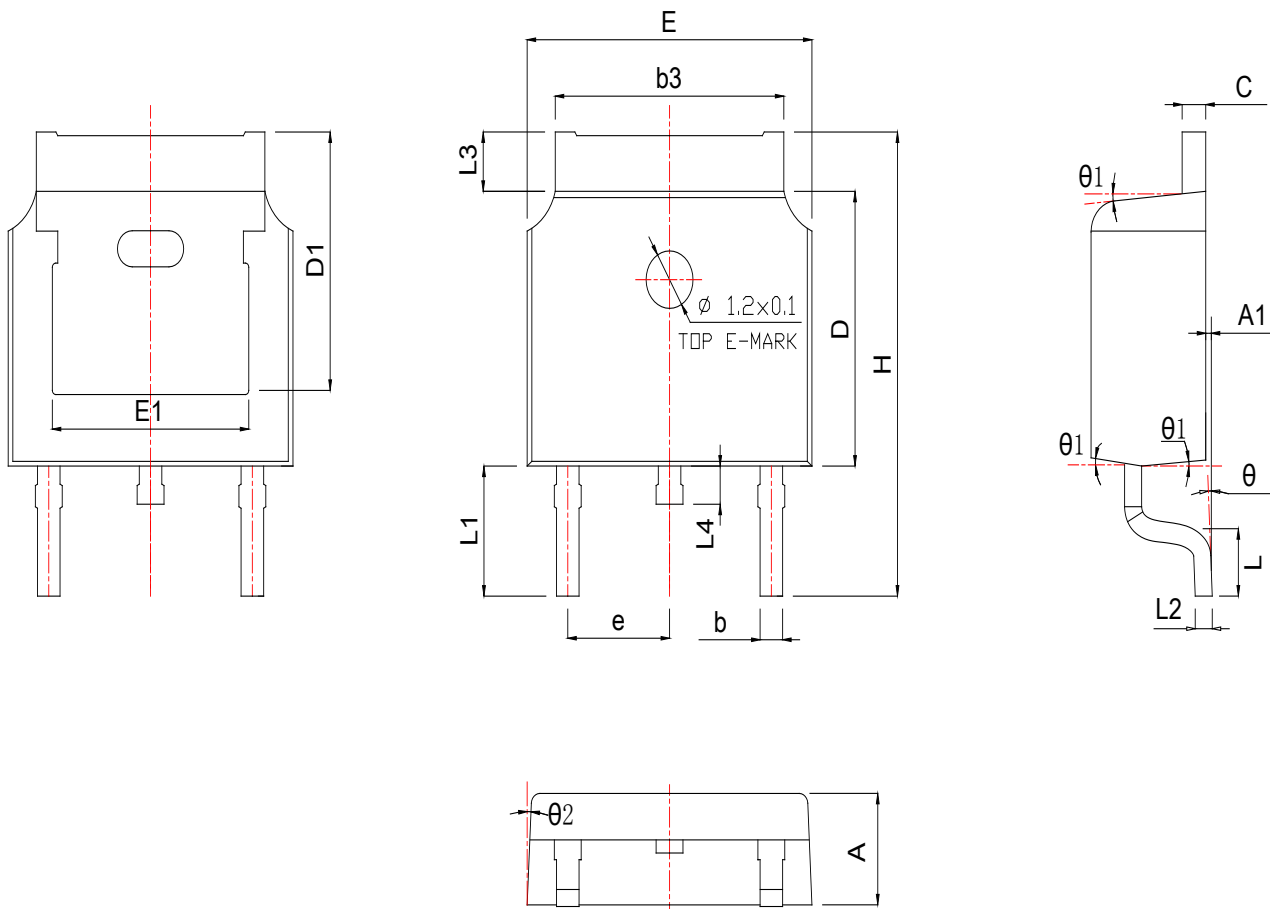
Device	Marking	Package	Packaging	Quantity	Reel Size	Tape width
RUS4510L	RUS4510L	TO252	Tape&Reel	2500	13"	16mm

Typical Characteristics



Package Information

TO252



SYMBOL	MM			INCH		
	MIN	NOM	MAX	MIN	NOM	MAX
A	2.200	2.290	2.380	0.087	0.090	0.094
A1	0.000		0.100	0.000		0.004
b	0.720	0.785	0.850	0.028	0.031	0.033
b3	5.230	5.345	5.460	0.206	0.210	0.215
c	0.470	0.525	0.580	0.019	0.021	0.023
D	6.000	6.100	6.200	0.236	0.240	0.244
D1		5.30 REF			0.20 REF	
E	6.500	6.600	6.700	0.256	0.260	0.264
E1	4.700	4.810	4.920	0.185	0.189	0.194
e	2.28 REF			0.09 REF		
H	9.900	10.100	10.300	0.390	0.398	0.406
L	1.400	1.550	1.700	0.055	0.061	0.067
L1		2.743 REF			0.108 REF	
L2		0.510 BSC			0.020 BSC	
L3	0.900	1.075	1.250	0.035	0.042	0.049
L4	0.600	0.800	1.000	0.024	0.031	0.039
θ	0°		8°	0°		8°
$\theta 1$	5°	7°	9°	5°	7°	9°
$\theta 2$	5°	7°	9°	5°	7°	9°

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