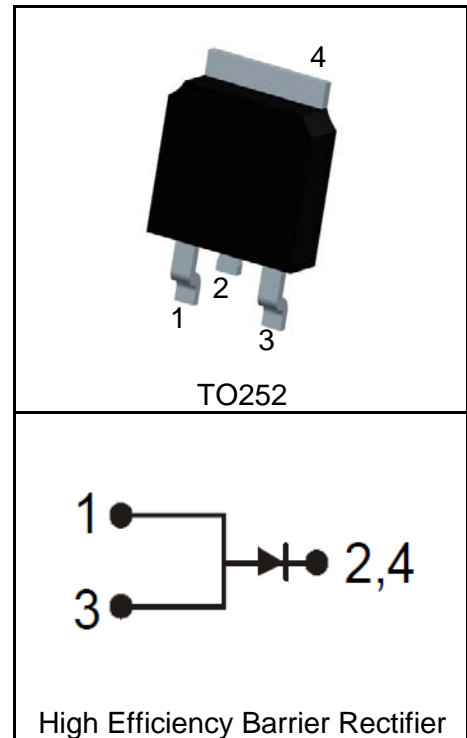


Features

- $V_{RRM} = 45V$
 $I_{F(AV)} = 10A$
- 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)

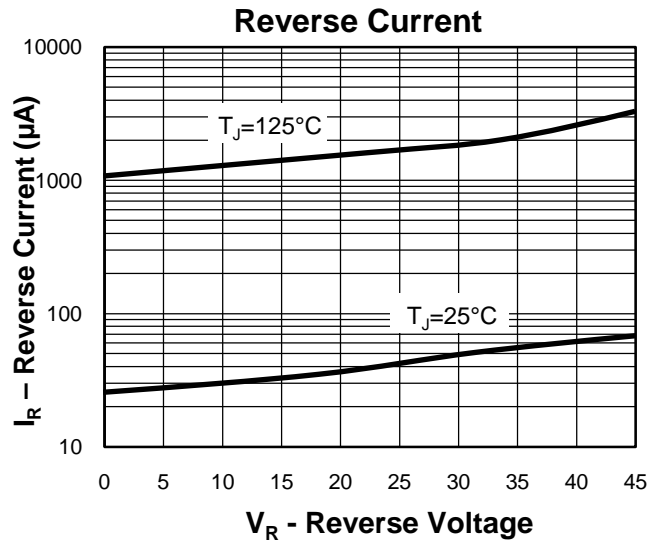
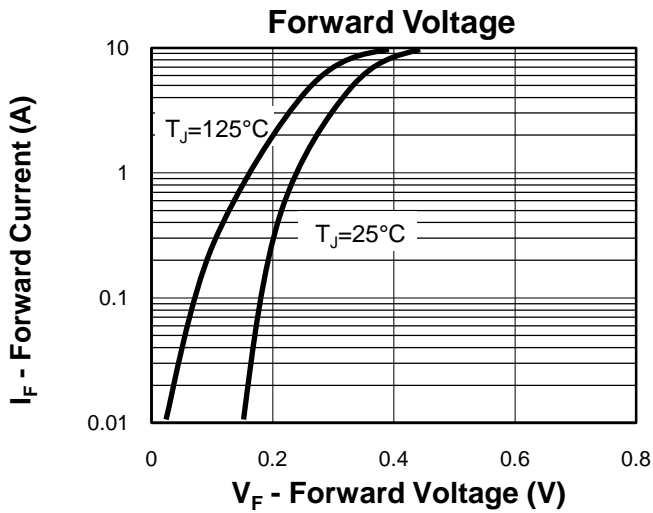
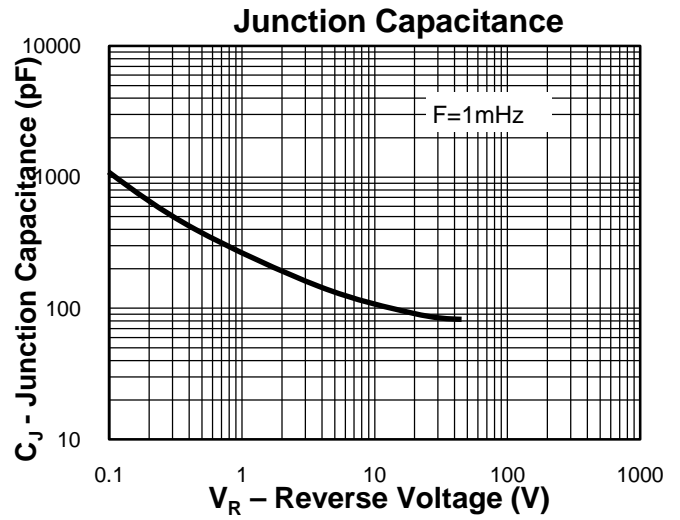
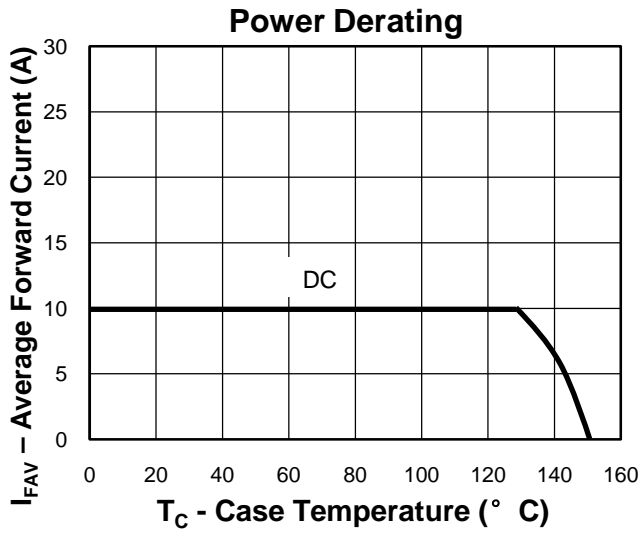
Symbol	Parameter	Test Condition	RUS4510L			Unit
			Min.	Typ.	Max.	
Static Characteristics						
$V_{(BR)R}^{②}$	Reverse Breakdown Voltage	$I_R=300\mu\text{A}$	45			V
$I_R^{②}$	Reverse Leakage Current	$V_R=45\text{V}, T_C=25^\circ\text{C}$			300	μA
		$V_R=45\text{V}, T_C=125^\circ\text{C}$			5	mA
$V_F^{②}$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

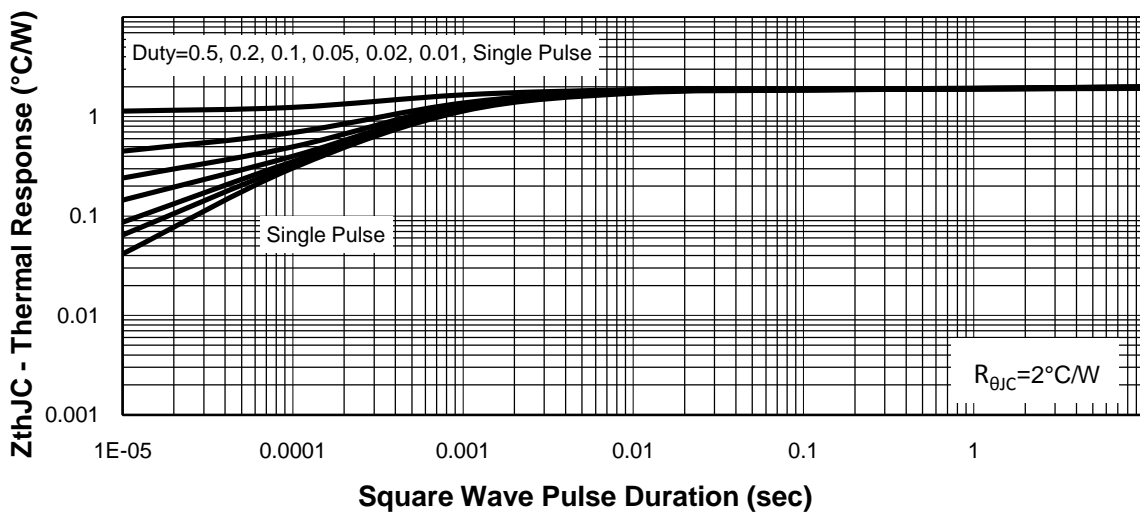
Ordering and Marking Information

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

Typical Characteristics

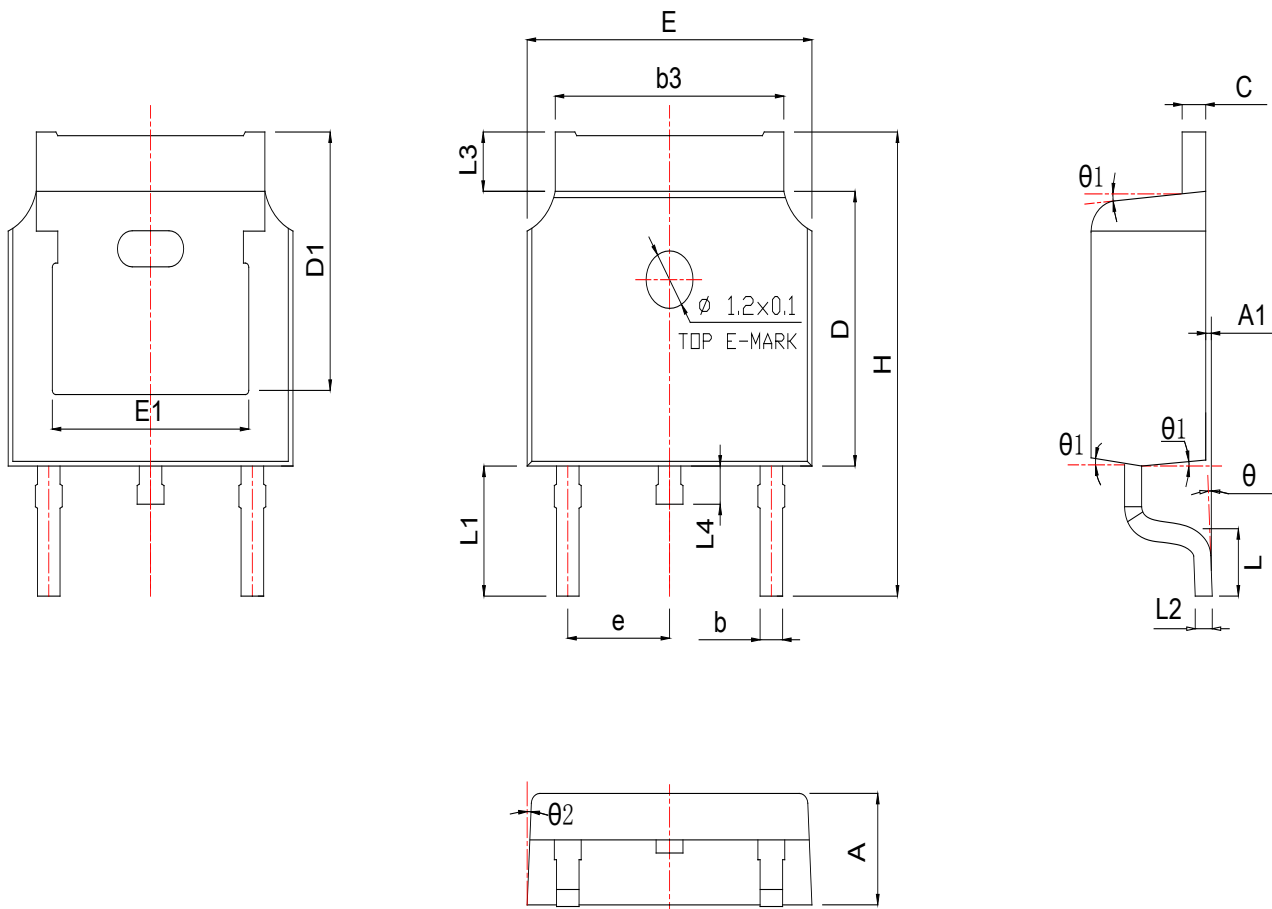


Thermal Transient Impedance



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
theta	0°		8°	0°		8°
theta 1	5°	7°	9°	5°	7°	9°
theta 2	5°	7°	9°	5°	7°	9°

Customer Service**Worldwide Sales and Service:**

Sales@ruichips.com

Technical Support:

Technical@ruichips.com

Investor Relations Contacts:

Investor@ruichips.com

Marcom Contact:

Marcom@ruichips.com

Editorial Contact:

Editorial@ruichips.com

HR Contact:

HR@ruichips.com

Legal Contact:

Legal@ruichips.com

Shen Zhen RUICHIPS Semiconductor CO., LTD

Room 501, the 5floor An Tong Industrial Building,
NO.207 Mei Hua Road Fu Tian Area Shen Zhen City, CHINA

TEL: (86-755) 8311-5334

FAX: (86-755) 8311-4278

E-mail: Sales-SZ@ruichips.com