RKZ-KU Series

Silicon Planar Zener Diode for Stabilized Power Supply

REJ03G1771-0100
Rev.1.00
Jul 13, 2009

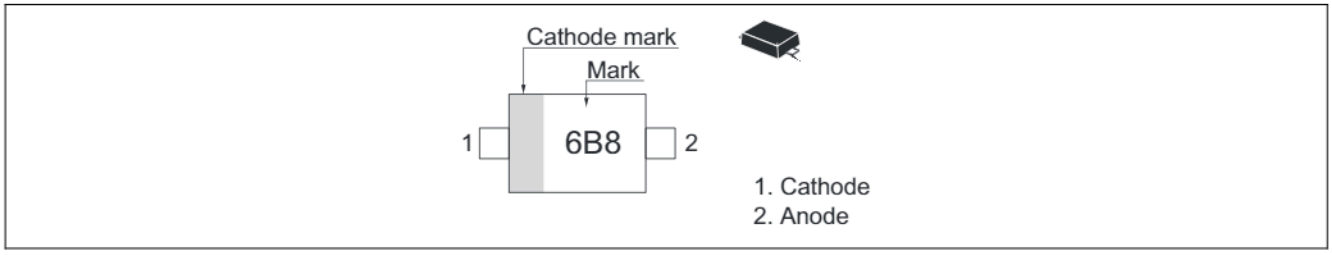
Features

- Small outline yet high-power permitting 500 mW power dissipation.
- Halogen free, Environmental friendly Package includes Conformity to RoHS Directive.
- Thin Ultra small Resin Package (TURP-FM) is suitable for high density surface mounting and high speed assembly.

Ordering Information

Part No.	Laser Mark	Package Name	Package Code	Taping Abbreviation (Quantity)
RKZ-KU Series P RKZ-KU Series R	Let to Mark Code	TURP-FM	PUSF0002ZD-A	P (4,000 pcs / reel) R (8,000 pcs / reel)

Pin Arrangement

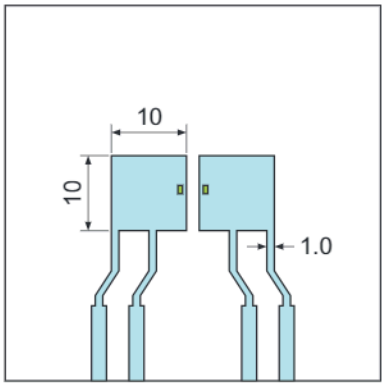


Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd	500	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Notes: 1. Device mounted on glass-epoxy board (50 × 50 mm, t = 1.6 mm)
2. Solder land (10 × 10 mm)
50h × 50w × 1.6t (mm)



Electrical Characteristics

(Ta = 25°C)

Part No.	Zener Voltage			Reverse Current		Dynamic Resistance		ESD-Capability
	V_Z (V) *1		Test Condition	I_R (μA)	Test Condition	r_d (Ω)	Test Condition	(kV) *2
	Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_{ZT}(mA)	Min
RKZ2.4AKU	2.33	2.52	20	120	1	100	20	30
RKZ2.4BKU	2.43	2.63						
RKZ2.7AKU	2.54	2.75	20	120	1	110	20	30
RKZ2.7BKU	2.69	2.91						
RKZ3.0AKU	2.85	3.07	20	50	1	120	20	30
RKZ3.0BKU	3.01	3.22						
RKZ3.3AKU	3.16	3.38	20	20	1	130	20	30
RKZ3.3BKU	3.32	3.53						
RKZ3.6AKU	3.45	3.69	20	10	1	130	20	30
RKZ3.6BKU	3.60	3.84						
RKZ3.9AKU	3.74	4.01	20	10	1	130	20	30
RKZ3.9BKU	3.89	4.16						
RKZ4.3AKU	4.04	4.29	20	10	1	130	20	30
RKZ4.3BKU	4.17	4.43						
RKZ4.3CKU	4.30	4.57						
RKZ4.7AKU	4.44	4.68	20	10	1	130	20	30
RKZ4.7BKU	4.55	4.80						
RKZ4.7CKU	4.68	4.93						
RKZ5.1AKU	4.81	5.07	20	7.5	2	130	20	30
RKZ5.1BKU	4.94	5.20						
RKZ5.1CKU	5.09	5.37						
RKZ5.6AKU	5.28	5.55	20	7.5	2	80	20	30
RKZ5.6BKU	5.45	5.73						
RKZ5.6CKU	5.61	5.91						
RKZ6.2AKU	5.78	6.09	20	7.5	3	50	20	30
RKZ6.2BKU	5.96	6.27						
RKZ6.2CKU	6.12	6.44						
RKZ6.8AKU	6.29	6.63	20	7.5	4	30	20	30
RKZ6.8BKU	6.49	6.83						
RKZ6.8CKU	6.66	7.01						
RKZ7.5AKU	6.85	7.22	20	7.5	4	30	20	30
RKZ7.5BKU	7.07	7.45						
RKZ7.5CKU	7.29	7.67						
RKZ8.2AKU	7.53	7.92	20	7.5	7.15	30	20	30
RKZ8.2BKU	7.78	8.19			7.39			
RKZ8.2CKU	8.03	8.45			7.63			
RKZ9.1AKU	8.29	8.73	20	7.5	7.88	30	20	30
RKZ9.1BKU	8.57	9.01			8.14			
RKZ9.1CKU	8.83	9.30			8.39			
RKZ10AKU	9.12	9.59	20	7.5	8.66	30	20	30
RKZ10BKU	9.41	9.90			8.94			
RKZ10CKU	9.70	10.20			9.22			
RKZ10DKU	9.94	10.44			9.44			

Notes: 1. Tested with pulse (P_W = 40 ms)

2. C =150 pF, R = 330 Ω, Both forward and reverse direction 10 pulse
   Failure criterion ; According to IR spec

(Ta = 25°C)

Part No.	Zener Voltage			Reverse Current		Dynamic Resistance		ESD-Capability
	V_Z (V) *1		Test Condition	I_R (μA)	Test Condition	r_d (Ω)	Test Condition	(kV) *2
	Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_{ZT} (mA)	Min
RKZ11AKU	10.18	10.71	10	0.07	9.67	30	10	30
RKZ11BKU	10.50	11.05			9.98			
RKZ11CKU	10.82	11.38			10.28			
RKZ12AKU	11.13	11.71	10	0.07	10.6	35	10	30
RKZ12BKU	11.44	12.03			10.9			
RKZ12CKU	11.74	12.35			11.2			
RKZ13AKU	12.11	12.75	10	0.07	11.5	35	10	30
RKZ13BKU	12.55	13.21			11.9			
RKZ13CKU	12.99	13.66			12.3			
RKZ15AKU	13.44	14.13	10	0.07	12.8	40	10	30
RKZ15BKU	13.89	14.62			13.2			
RKZ15CKU	14.35	15.09			13.6			
RKZ16AKU	14.80	15.57	10	0.07	14.1	40	10	30
RKZ16BKU	15.25	16.04			14.5			
RKZ16CKU	15.69	16.51			14.9			
RKZ18AKU	16.22	17.06	10	0.07	15.4	45	10	30
RKZ18BKU	16.82	17.70			16.0			
RKZ18CKU	17.42	18.33			16.5			
RKZ20AKU	18.05	18.96	10	0.07	17.1	50	10	30
RKZ20BKU	18.63	19.59			17.7			
RKZ20CKU	19.23	20.22			18.3			
RKZ20DKU	19.72	20.72			18.7			
RKZ22AKU	20.15	21.20	5	0.07	19.1	55	5	30
RKZ22BKU	20.64	21.71			19.6			
RKZ22CKU	21.08	22.17			20.0			
RKZ22DKU	21.52	22.63			20.4			
RKZ24AKU	22.05	23.18	5	0.07	20.9	60	5	30
RKZ24BKU	22.61	23.77			21.5			
RKZ24CKU	23.12	24.31			22.0			
RKZ24DKU	23.63	24.85			22.4			
RKZ27AKU	24.26	25.52	5	0.07	23.0	70	5	30
RKZ27BKU	24.97	26.26			23.7			
RKZ27CKU	25.63	26.95			24.3			
RKZ27DKU	26.29	27.64			25.0			
RKZ30AKU	26.99	28.39	5	0.07	25.6	80	5	30
RKZ30BKU	27.70	29.13			26.0			
RKZ30CKU	28.36	29.82			26.9			
RKZ30DKU	29.02	30.51			27.6			
RKZ33AKU	29.68	31.22	5	0.07	28.2	80	5	25
RKZ33BKU	30.32	31.88			28.8			
RKZ33CKU	30.90	32.50			29.4			
RKZ33DKU	31.49	33.11			29.9			
RKZ36AKU	32.14	33.79	5	0.07	30.5	90	5	20
RKZ36BKU	32.79	34.49			31.2			
RKZ36CKU	33.40	35.13			31.7			
RKZ36DKU	34.01	35.77			32.3			

Notes: 1. Tested with pulse (P_W = 40 ms)

2. C =150 pF, R = 330 Ω, Both forward and reverse direction 10 pulse
   Failure criterion ; According to IR spec

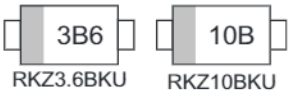
Mark Code

Part No.	Mark No.
RKZ2.4AKU	2A4
RKZ2.4BKU	2B4
RKZ2.7AKU	2A7
RKZ2.7BKU	2B7
RKZ3.0AKU	3A0
RKZ3.0BKU	3B0
RKZ3.3AKU	3A3
RKZ3.3BKU	3B3
RKZ3.6AKU	3A6
RKZ3.6BKU	3B6
RKZ3.9AKU	3A9
RKZ3.9BKU	3B9
RKZ4.3AKU	4A3
RKZ4.3BKU	4B3
RKZ4.3CKU	4C3
RKZ4.7AKU	4A7
RKZ4.7BKU	4B7
RKZ4.7CKU	4C7
RKZ5.1AKU	5A1
RKZ5.1BKU	5B1
RKZ5.1CKU	5C1
RKZ5.6AKU	5A6
RKZ5.6BKU	5B6
RKZ5.6CKU	5C6
RKZ6.2AKU	6A2
RKZ6.2BKU	6B2
RKZ6.2CKU	6C2
RKZ6.8AKU	6A8
RKZ6.8BKU	6B8
RKZ6.8CKU	6C8
RKZ7.5AKU	7A5
RKZ7.5BKU	7B5
RKZ7.5CKU	7C5

Part No.	Mark No.
RKZ8.2AKU	8A2
RKZ8.2BKU	8B2
RKZ8.2CKU	8C2
RKZ9.1AKU	9A1
RKZ9.1BKU	9B1
RKZ9.1CKU	9C1
RKZ10AKU	10A
RKZ10BKU	10B
RKZ10CKU	10C
RKZ10DKU	10D
RKZ11AKU	11A
RKZ11BKU	11B
RKZ11CKU	11C
RKZ12AKU	12A
RKZ12BKU	12B
RKZ12CKU	12C
RKZ13AKU	13A
RKZ13BKU	13B
RKZ13CKU	13C
RKZ15AKU	15A
RKZ15BKU	15B
RKZ15CKU	15C
RKZ16AKU	16A
RKZ16BKU	16B
RKZ16CKU	16C
RKZ18AKU	18A
RKZ18BKU	18B
RKZ18CKU	18C
RKZ20AKU	20A
RKZ20BKU	20B
RKZ20CKU	20C
RKZ20DKU	20D

Part No.	Mark No.
RKZ22AKU	22A
RKZ22BKU	22B
RKZ22CKU	22C
RKZ22DKU	22D
RKZ24AKU	24A
RKZ24BKU	24B
RKZ24CKU	24C
RKZ24DKU	24D
RKZ27AKU	27A
RKZ27BKU	27B
RKZ27CKU	27C
RKZ27DKU	27D
RKZ30AKU	30A
RKZ30BKU	30B
RKZ30CKU	30C
RKZ30DKU	30D
RKZ33AKU	33A
RKZ33BKU	33B
RKZ33CKU	33C
RKZ33DKU	33D
RKZ36AKU	36A
RKZ36BKU	36B
RKZ36CKU	36C
RKZ36DKU	36D

Note: 1. Example of Marking



RKZ3.6BKU RKZ10BKU

Main Characteristics

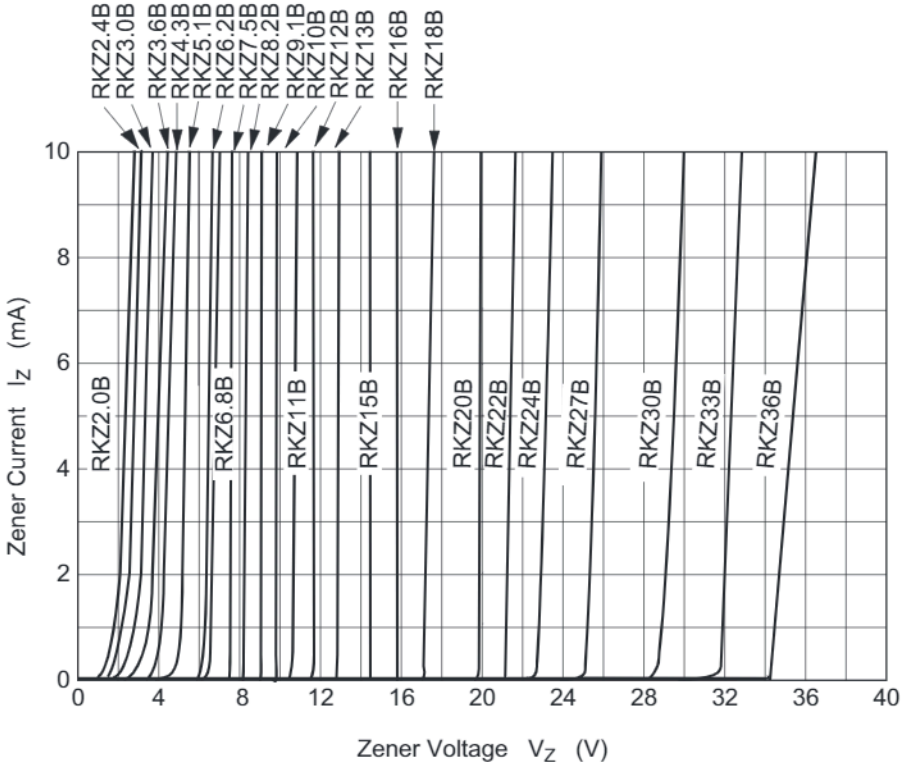


Fig.1 Zener current vs. Zener voltage

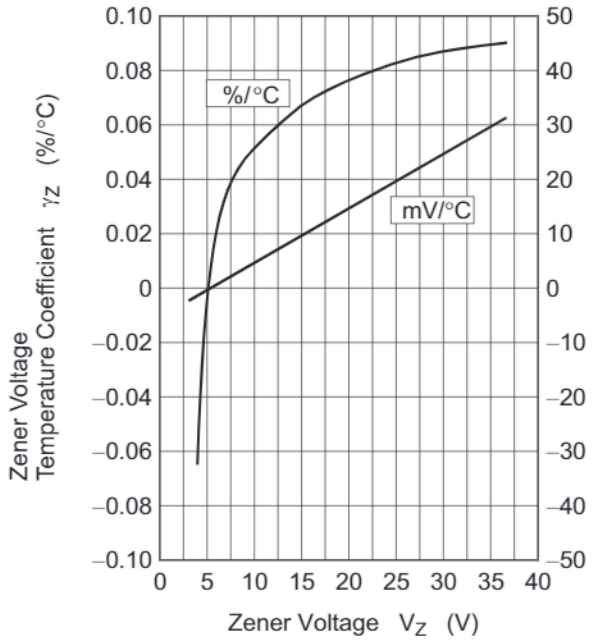


Fig.2 Temperature Coefficient vs. Zener voltage

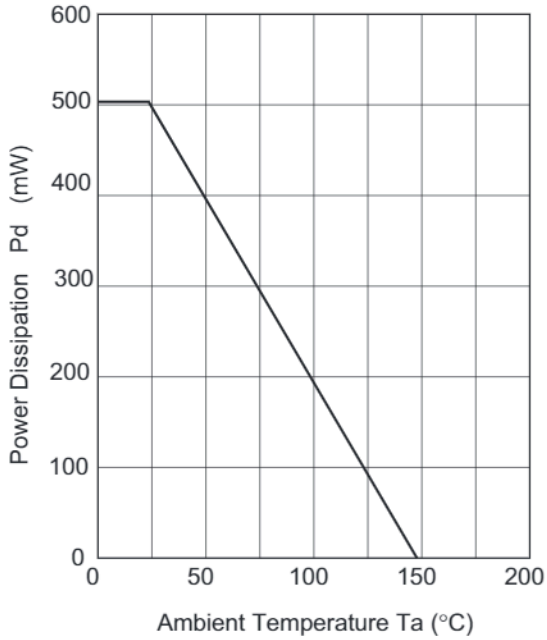
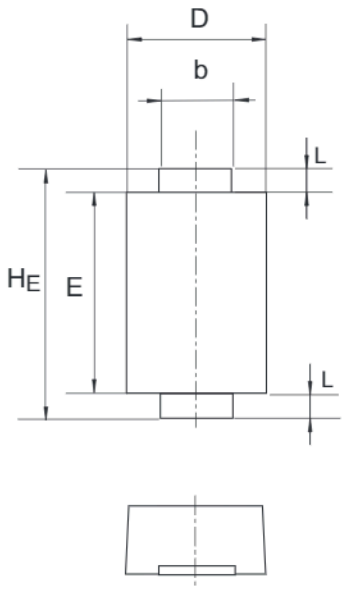
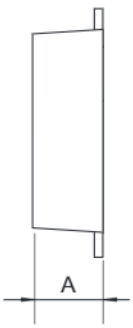


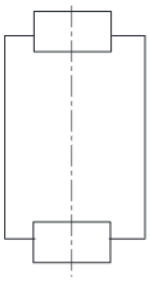
Fig.3 Power Dissipation vs. Ambient Temperature

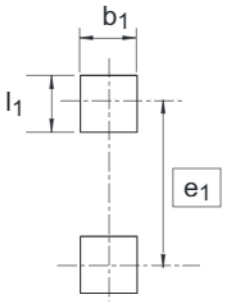
Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TURP-FM	—	PUSF0002ZD-A	TURP-FM	0.004g









Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.55	0.60	0.65
b	0.55	0.60	0.65
D	1.20	1.30	1.40
E	1.80	1.90	2.00
L	0.25	0.30	0.35
H_E	2.40	2.50	2.60
b_1	-	0.90	-
e_1	-	2.30	-
l_1	-	0.80	-

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