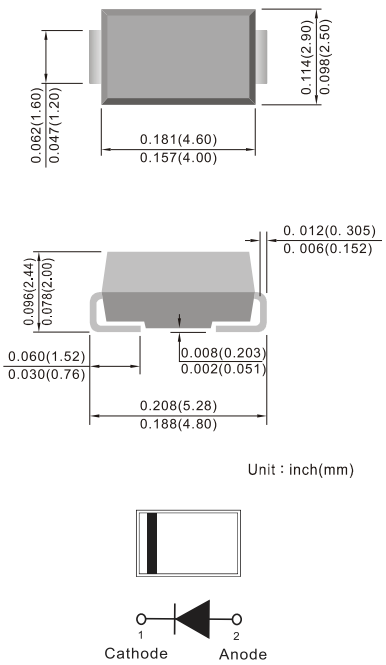
2A, 200V-1000V Fast Recovery Surface Mount Rectifier

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low reverse leakage
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

DO-214AC (SMA)



APPLICATIONS

- Switch Mode Power Supply
- Inverters and Converters
- Free Wheeling diodes

MECHANICAL DATA

- Case: DO-214AC (SMA)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.06 g (approximately)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	RS2DA	RS2GA	RS2JA	RS2KA	RS2MA	UNIT
Repetitive peak reverse voltage		V_{RRM}	200	400	600	800	1000	V
Reverse voltage, total rms value		$V_{R(RMS)}$	140	280	420	560	700	V
DC blocking voltage		V_{DC}	200	400	600	800	1000	V
Forward current		I_F	2					A
Surge peak forward current single half sine-wave superimposed on rated load per diode	8.3 ms at T_A= 25°C	I_{FSM}	50					A
	1.0 ms at T_A= 25°C		124					A
Junction temperature		T_J	-55 to +150					°C
Storage temperature		T_{STG}	-55 to +150					°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance per diode	$R_{\theta JL}$	14	°C/W
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	86	°C/W
Junction-to-case thermal resistance per diode	$R_{\theta JC}$	23	°C/W

Thermal Performance Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)						
PARAMETER		**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Forward voltage per diode (1)	RS2DA to RS2GA	I_F = 1A, T_J = 25°C	V_F	1.01	-	V
		I_F = 2A, T_J = 25°C		1.11	1.3	V
		I_F = 1A, T_J = 125°C		0.87	-	V
		I_F = 2A, T_J = 125°C		0.98	1.12	V
	RS2JA	I_F = 1A, T_J = 25°C		1.02	-	V
		I_F = 2A, T_J = 25°C		1.12	1.3	V
		I_F = 1A, T_J = 125°C		0.91	-	V
		I_F = 2A, T_J = 125°C		1.01	1.07	V
	RS2KA to RS2MA	I_F = 1A, T_J = 25°C		0.95	-	V
		I_F = 2A, T_J = 25°C		1.03	1.3	V
		I_F = 1A, T_J = 125°C		0.81	-	V
		I_F = 2A, T_J = 125°C		0.90	1.03	V
Reverse current @ rated V_R per diode (2)		T_J = 25°C	I_R	-	5	μA
		T_J = 125°C		-	100	μA
Reverse recovery time	RS2DA to RS2GA	I_F=0.5A,I_R=1.0A, Irr=0.25A	t_{rr}	-	150	ns
	RS2JA			-	250	ns
	RS2KA to RS2MA			-	500	ns
Junction capacitance per diode	RS2DA to RS2GA	1 MHz, V_R=4.0V	C_J	14	-	pF
	RS2JA			13	-	pF
	RS2KA to RS2MA			10	-	pF

Notes:

(1) Pulse test with PW=0.3 ms (2) Pulse test with PW=30 ms

CHARACTERISTICS CURVES (T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

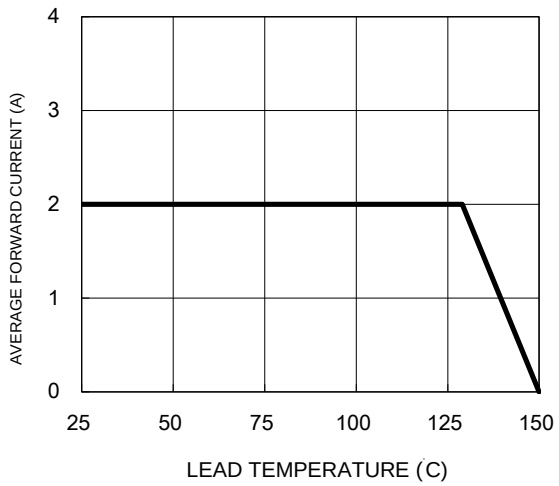


Fig.2 Typical Junction Capacitance

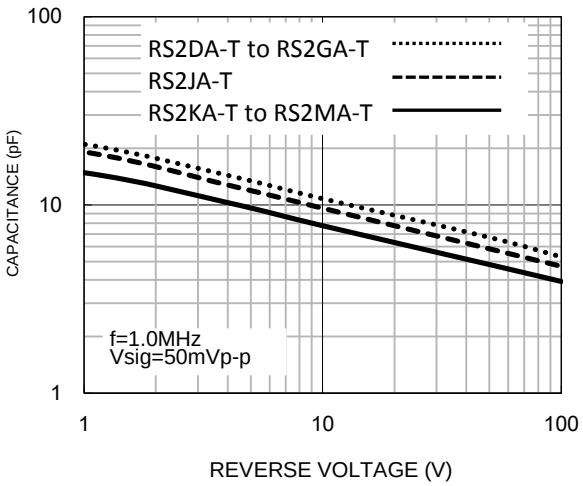


Fig.3 Typical Reverse Characteristics

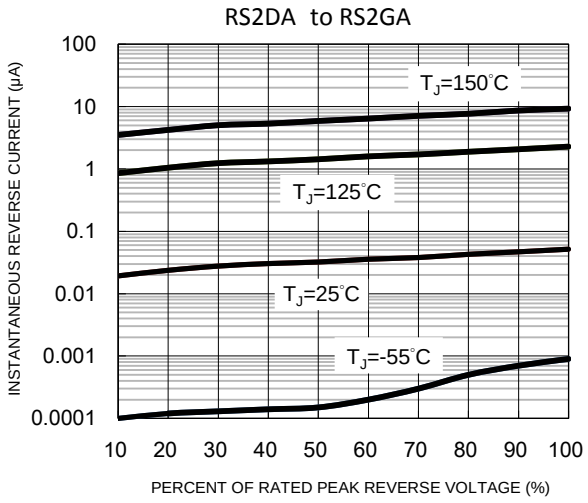


Fig.4 Typical Forward Characteristics

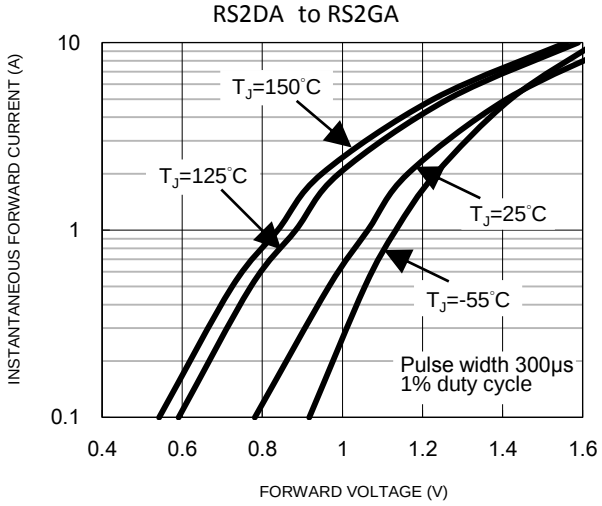


Fig.5 Typical Reverse Characteristics

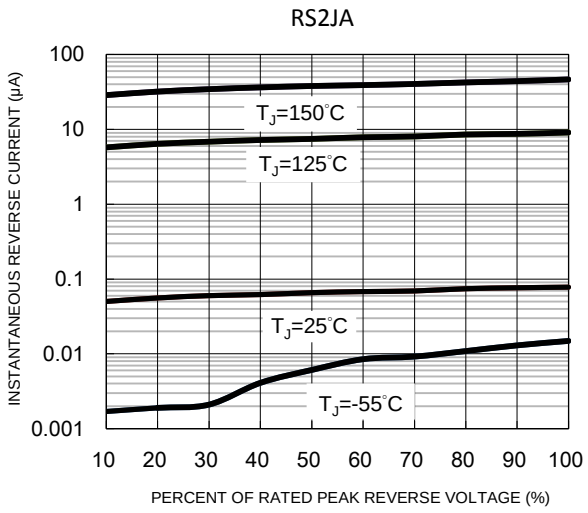


Fig.6 Typical Forward Characteristics

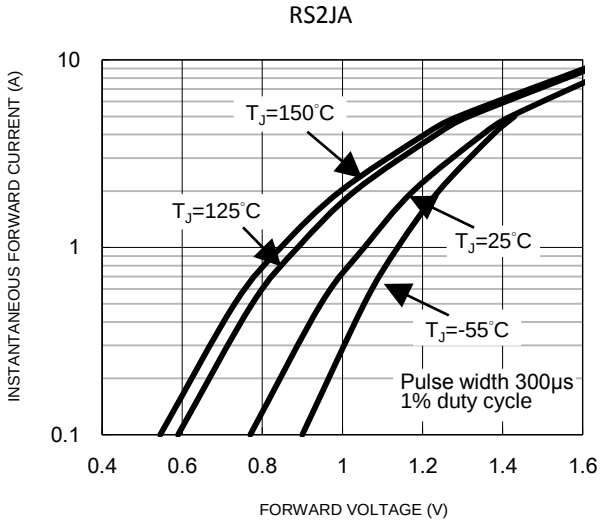


Fig.7 Typical Reverse Characteristics

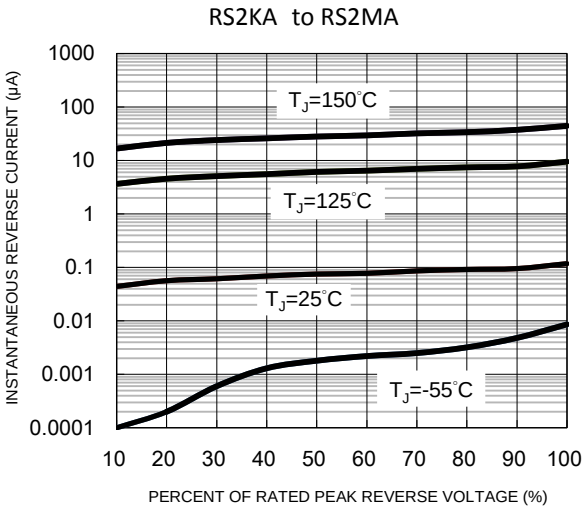


Fig.8 Typical Forward Characteristics