

## 1A, 20V - 40V Schottky Barrier Rectifiers

### FEATURES

- Low forward voltage drop
- Guardring for overvoltage protection
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### MECHANICAL DATA

**Case:** DO-204AL (DO-41)

Molding compound, UL flammability classification rating 94V-0

Part no. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

**Terminal:** Pure tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

**Polarity:** Indicated by cathode band

**Weight:** 0.33 gram (approximately)



**DO-204AL (DO-41)**



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)					
PARAMETER	SYMBOL	1N5817	1N5818	1N5819	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	30			A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V <sub>F</sub>	0.45	0.55	0.60	V
Maximum reverse current @ rated V <sub>R</sub>	I <sub>R</sub>	1 10			mA
		T <sub>J</sub> =25°C T <sub>J</sub> =100°C			
Typical junction capacitance (Note 2)	C <sub>J</sub>	55			pF
Voltage rate of change (Rated V <sub>R</sub> )	dV/dt	10000			V/μs
Typical thermal resistance	R <sub>θJC</sub> R <sub>θJA</sub>	45 100			°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +125			°C
Storage temperature range	T <sub>STG</sub>	- 55 to +125			°C

Note 1: Pulse test with PW=300 μs, 1% duty cycle

Note 2: Measure at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
1N581x (Note 1)	H	A0	G	DO-41	3,000 / Ammo box (52mm taping)
		R0		DO-41	5,000 / 13" Paper reel
		R1		DO-41	5,000 / 13" Paper reel (Reverse)
		B0		DO-41	1,000 / Bulk packing

Note 1: "x" defines voltage from 20V (1N5817) to 40V (1N5819)

\*: Optional available

EXAMPLE					
PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
1N5817HA0G	1N5817	H	A0	G	AEC-Q101 qualified Green compound

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub>=25°C unless otherwise noted)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

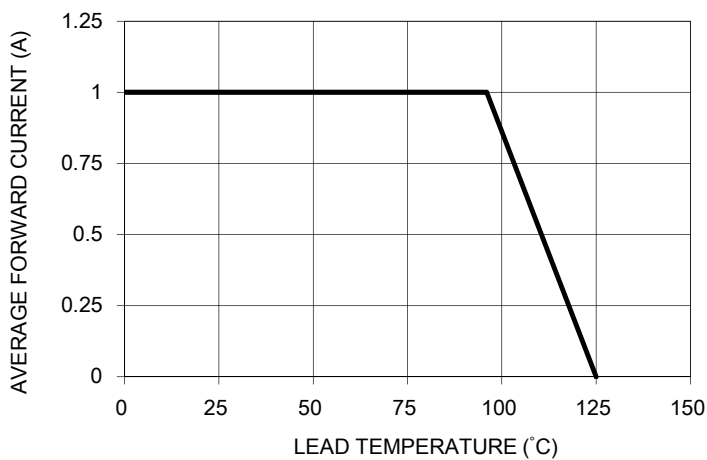


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

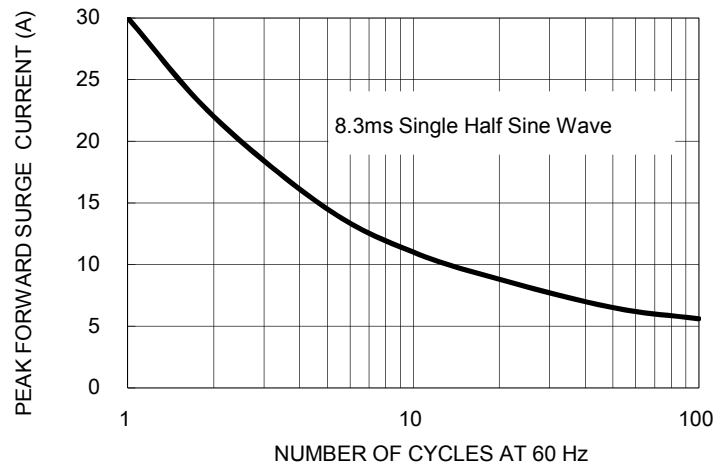


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

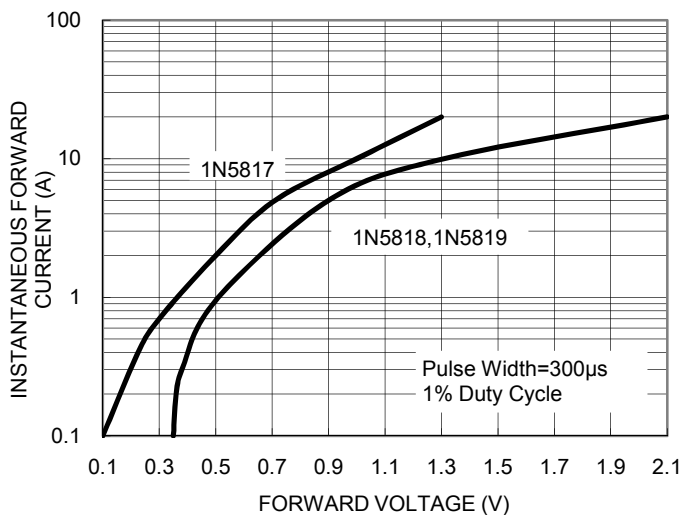


FIG. 4 TYPICAL REVERSE LEAKAGE CHARACTERISTICS

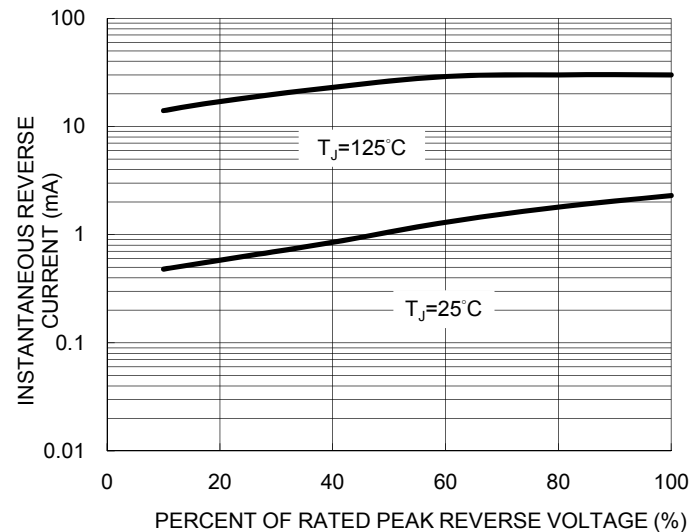


FIG. 5 TYPICAL JUNCTION CAPACITANCE

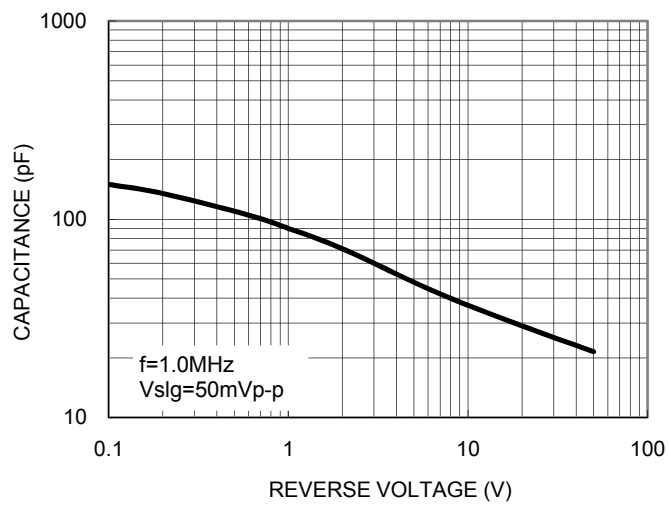
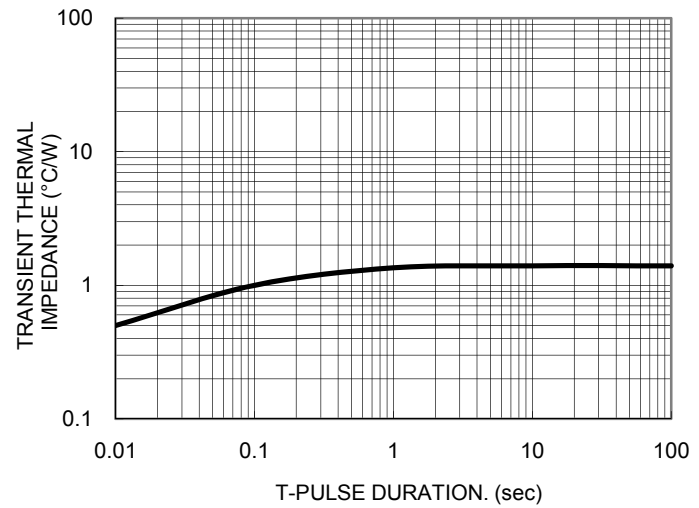
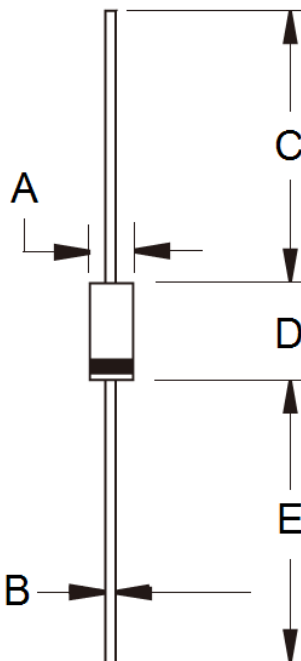


FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS



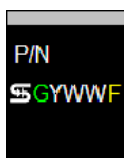
DIMENSIONS

DO-204AL (DO-41)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.00	2.70	0.079	0.106
B	0.71	0.86	0.028	0.034
C	25.40	-	1.000	-
D	4.20	5.20	0.165	0.205
E	25.40	-	1.000	-

MARKING DIAGRAM



- P/N = Specific Device Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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