

### Description

General application schottky barrier diode, encapsulated in a SOD-523 leadless ultra small Surface-Mounted Device (SMD) plastic package.

### Features

- Forward current: 1 A
- Reverse voltage:  $V_R \geq 40\text{ V}$
- Low forward voltage:  $V_F \leq 0.45\text{ V @ }100\text{mA}$
- Low reverse current:  $I_R \leq 100\mu\text{A @ }40\text{ V}$
- High reliability.

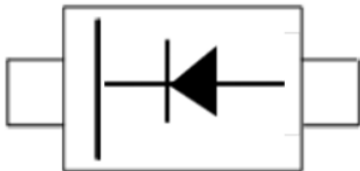
### Mechanical Characteristics

- SOD-523 Small Outline Plastic Package
- Level 1 moisture sensitivity per J-STD-020
- Case Material: “Green” Molding Compound
- We declare that the material of product compliance with RoHS requirements

### Applications

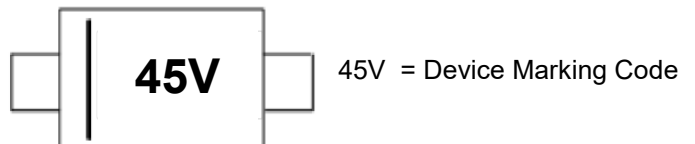
- Low voltage rectification
- High efficiency DC-to-DC conversion
- Switch Mode Power Supply (SMPS)
- Low power consumption applications
- Ultra high-speed switching
- LED backlight for mobile application

### Equivalent Circuit and Pin Configuration



Circuit and Pin Schematic

### Marking Information



### Ordering Information

Part Number	Packaging	Reel Size
ASK45V1RD5	3000/Tape & Reel	7 inch

**Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)**

Parameter	Symbol	Value	Units
Reverse voltage (repetitive peak)	$V_{RM}$	45	V
Reverse voltage (DC)	$V_R$	40	V
Average rectified forward current	$I_O$	1	A
Non-Repetitive Peak Forward Surge Current (8.3ms single half sine-wave superimposed on rated load)	$I_{FSM}$	5	A
Power Dissipation	$P_D$	400	mW
Thermal resistance	$R_{\theta JA}$	310	$^{\circ}\text{C/W}$
Junction Temperature	$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

**Electrical Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)**

Parameter	Symbol	Min	TYP	Max	Unit	Test Condition
Reverse Current	$I_R$			100	$\mu\text{A}$	$V_R=40\text{V}$
Forward Voltage	$V_F$		0.31	0.45	V	$I_F=100\text{mA}$
Junction Capacitance	$C_j$		90		pF	$V_R=0\text{V}, f=1\text{MHz}$

**Typical Characteristics**

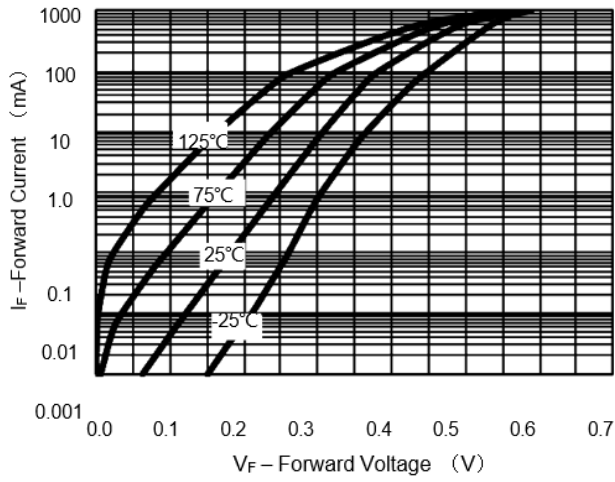


Fig 1. Forward Voltage

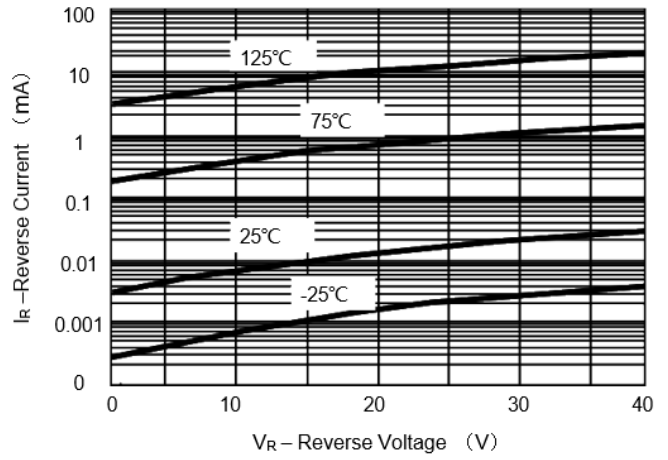


Fig 2. Leakage Current

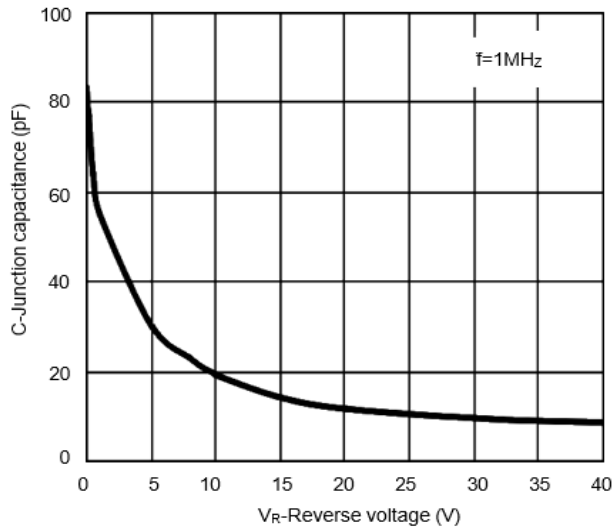
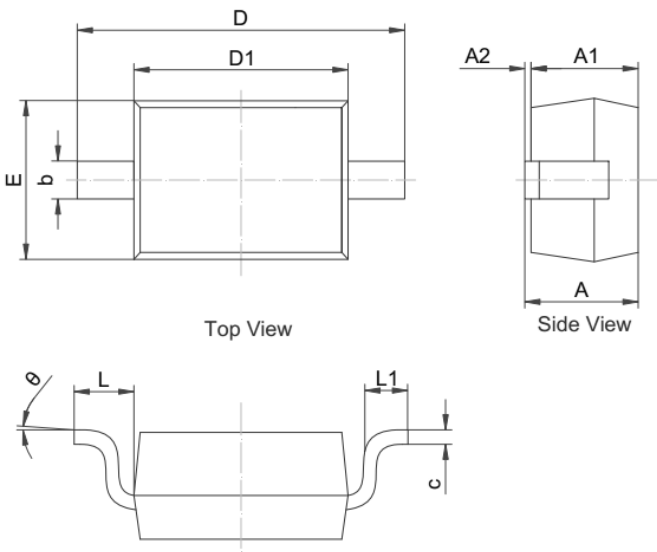


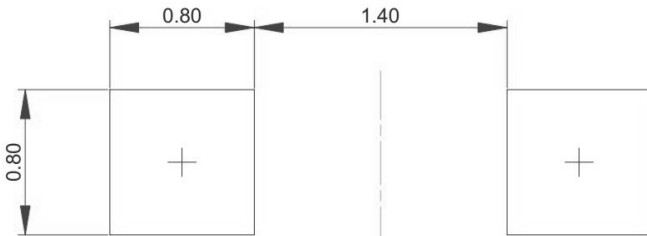
Fig 3. Capacitance vs. Reverses voltage

### SOD-523 Package Outline Drawing



SYM	MILLIMETERS		
	MIN	NOM	MAX
A	0.800	--	1.100
A1	0.800	--	0.900
A2	0.000	--	0.100
b	0.250	--	0.400
c	0.080	--	0.177
D1	1.600	1.700	1.800
D	2.300	--	2.800
E	1.150	--	1.400
L	0.475REF		
L1	0.100	--	0.500
$\theta$	0°	--	8°

### Suggested Land Pattern



**Unit: mm**

### Contact Information

Applied Power Microelectronics Inc.

Website: <http://www.appliedpowermicro.com>

Email: [sales@appliedpowermicro.com](mailto:sales@appliedpowermicro.com)