

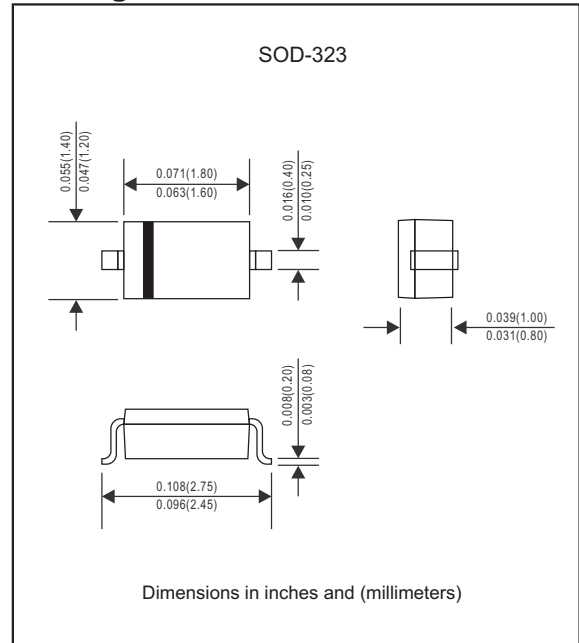
### Features

- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Very tiny plastic SMD package.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

### Package outline



### Maximum ratings and Electrical characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	$I_o$			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	$I_{FSM}$			25	A
Reverse current	$V_R = V_{RRM}$ $T_J = 25^{\circ}\text{C}$	$I_R$			0.3	mA
Storage temperature		$T_{STG}$	-55		+150	$^{\circ}\text{C}$

SYMBOLS	$V_{RRM}^{*1}$ (V)	$V_{RMS}^{*2}$ (V)	$V_R^{*3}$ (V)	$V_F^{*4}$ (V)	Operating temperature $T_J$ , ( $^{\circ}\text{C}$ )
DSK12-N-Q1	20	14	20	0.55	-55 to +125
DSK14-N-Q1	40	28	40		
DSK16-N-Q1	60	42	60	0.70	
DSK18-N-Q1	80	56	80		
DSK110-N-Q1	100	70	100	0.85	
DSK112-N-Q1	120	84	120		
DSK115-N-Q1	150	105	150	0.90	
DSK120-N-Q1	200	140	200		

\*1 Repetitive peak reverse voltage

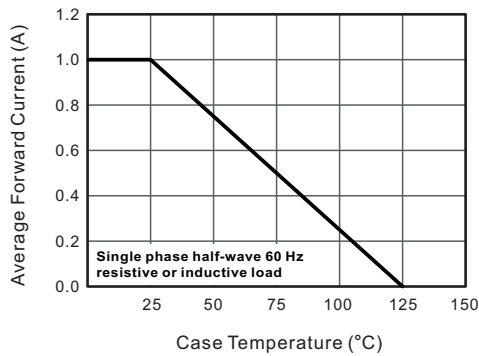
\*2 RMS voltage

\*3 Continuous reverse voltage

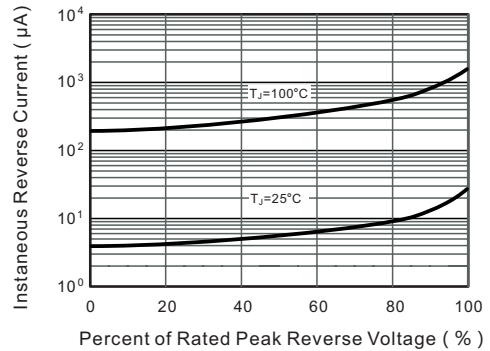
\*4 Maximum forward voltage@ $I_F=1.0\text{A}$

### Rating and characteristic curves

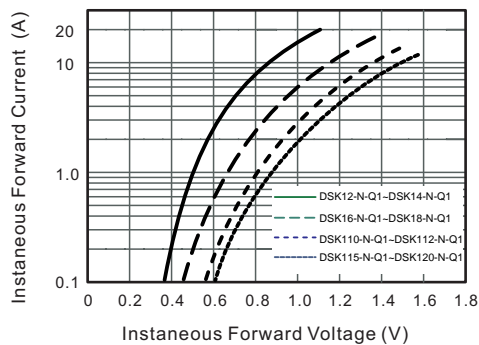
**Fig.1 Forward Current Derating Curve**



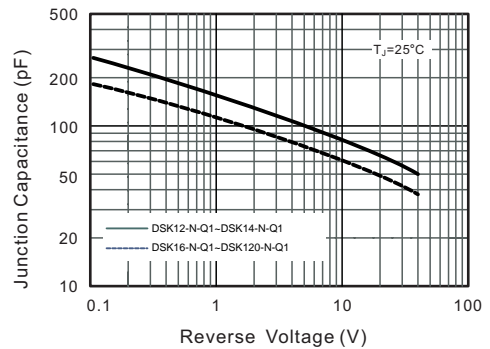
**Fig.2 Typical Reverse Characteristics**



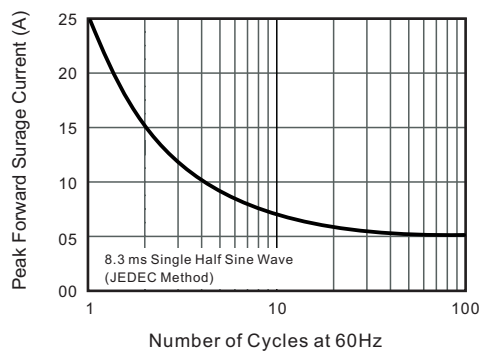
**Fig.3 Typical Forward Characteristic**



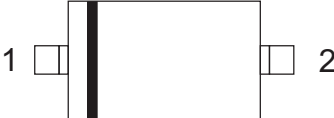

**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



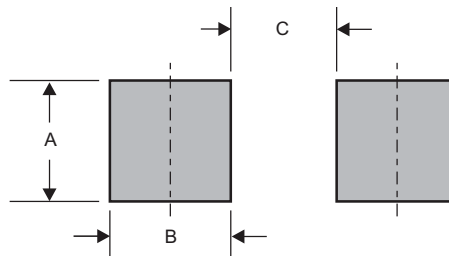
### Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

### Marking

Type number	Marking code
DSK12-N-Q1	12
DSK14-N-Q1	14
DSK16-N-Q1	16
DSK18-N-Q1	18
DSK110-N-Q1	110
DSK112-N-Q1	112
DSK115-N-Q1	115
DSK120-N-Q1	120

### Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-323	0.047 (1.20)	0.047 (1.20)	0.055 (1.40)