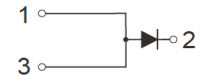
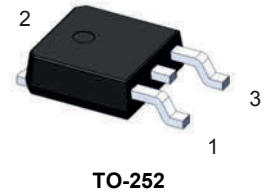


## Features

- Low power loss, high efficiency
- Guard ring die construction for transient protection
- High current capability and low forward voltage drop



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	200	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	140	V
Average Rectified Output Current	$I_O$	20	A
Non-Repetitive Peak Forward Surge Current (8.3ms Half Sine Wave)	$I_{FSM}$	260	A
Thermal Resistance from Junction to Case	$R_{\theta JC}$	2.4	$^{\circ}\text{C/W}$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	91	$^{\circ}\text{C/W}$
Junction Temperature	$T_J$	175	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +175	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Reverse Voltage	$V_{(BR)}$	$I_R=1\text{mA}$	200	-	-	V	
Reverse Current	$I_R$	$V_R=200\text{V}$	$T_J=25^{\circ}\text{C}$	-	52	500	nA
			$T_J=150^{\circ}\text{C}$	-	1.1	-	mA
Forward Voltage	$V_F$	$I_F=10\text{A}$	$T_J=25^{\circ}\text{C}$	-	0.79	-	V
			$T_J=150^{\circ}\text{C}$	-	0.62	-	V
		$I_F=20\text{A}$	$T_J=25^{\circ}\text{C}$	-	0.85	0.95	V
			$T_J=150^{\circ}\text{C}$	-	0.69	-	V

## Typical Ratings and Characteristics Curves

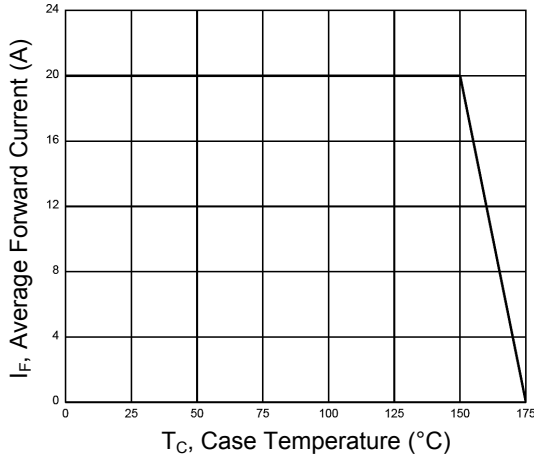


Figure 1. Forward Current Derating Curve

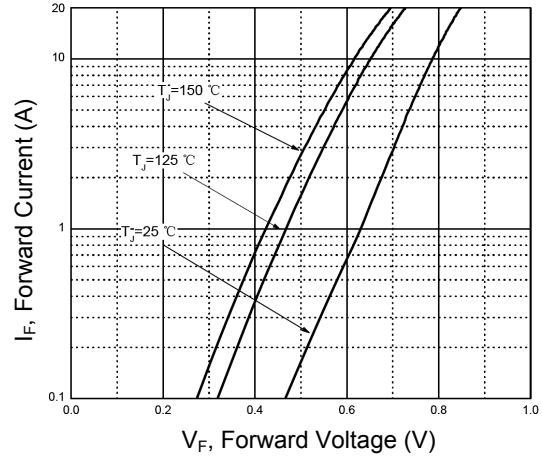


Figure 2. Forward Characteristics

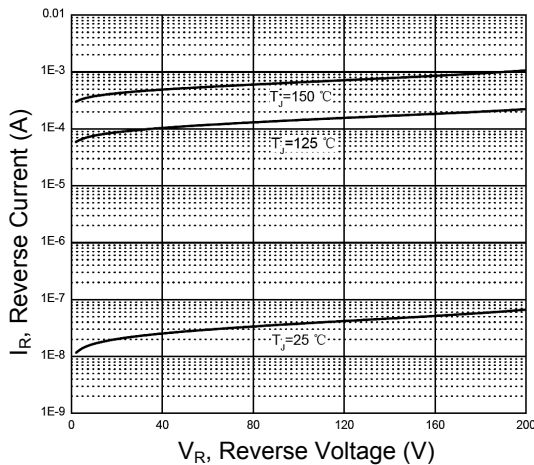


Figure 3. Reverse Characteristics

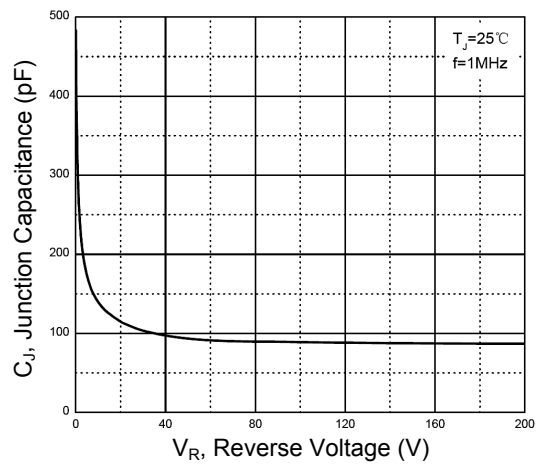
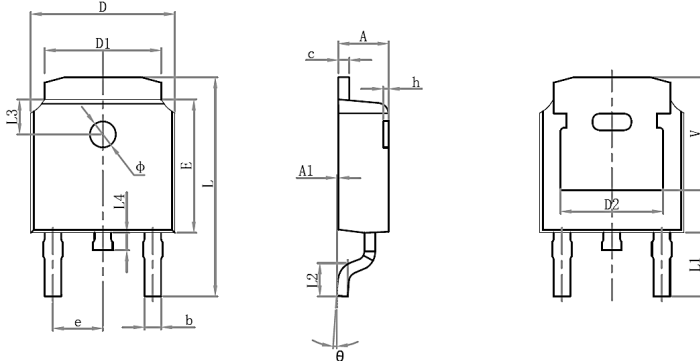


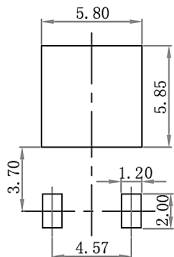
Figure 4. Capacitance Characteristics

## Package Outline Dimensions (TO-252)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF		0.190 REF	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF		0.114 REF	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF		0.063 REF	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF		0.207 REF	

## Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

## Order Information

Device	Package	Marking	Packaging	SPQ
GSBDD20H200A	TO-252	SBDD20H200A	Tape & Reel	2,500 Pcs / Reel

For more information, please contact us at: [inquiry@goodarksemi.com](mailto:inquiry@goodarksemi.com)