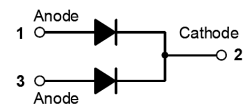


Features

- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



TO-220AB



Schematic Diagram

Applications

- SMPS
- Adapter
- Server power

Mechanical Data

- Case: Epoxy, molded
- Finish: All external surfaces corrosion resistant and terminal leads are readily solderable
- Lead temperature for soldering purposes: 260°C max. for 10 sec

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

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS Voltage	V_{RMS}	70	V
Maximum DC Blocking Voltage	V_{DC}	100	V
Maximum Average Forward Current	$I_{F(AV)}$	40	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	200	A
Typical Thermal Resistance, Junction to Case	$R_{\theta JC}$	2	$^\circ\text{C/W}$
Typical Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward Drop Voltage ¹	V_F	$I_F=20\text{A}, T_J=25^\circ\text{C}$	0.71	0.76	V
		$I_F=20\text{A}, T_J=125^\circ\text{C}$	-	0.69	
Reverse Leakage Current @ V_R^2	I_R	$T_J=25^\circ\text{C}$	-	100	μA
		$T_J=100^\circ\text{C}$	-	10	mA

Note:

1. Pulse test with PW=0.3ms, duty cycle=2%
2. Pulse test with PW=30ms

Ratings and Characteristics Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

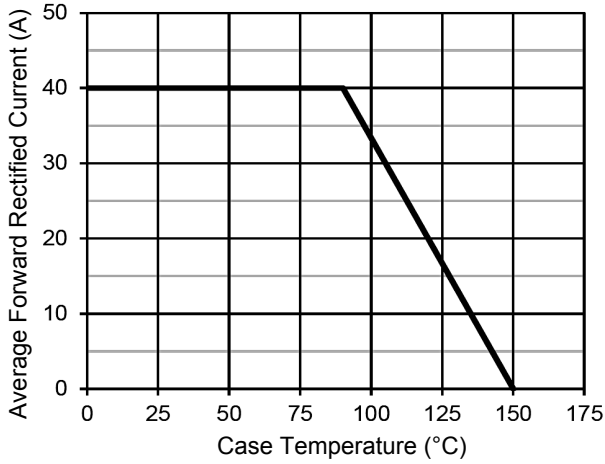


Figure 1. Forward Current Derating Curve

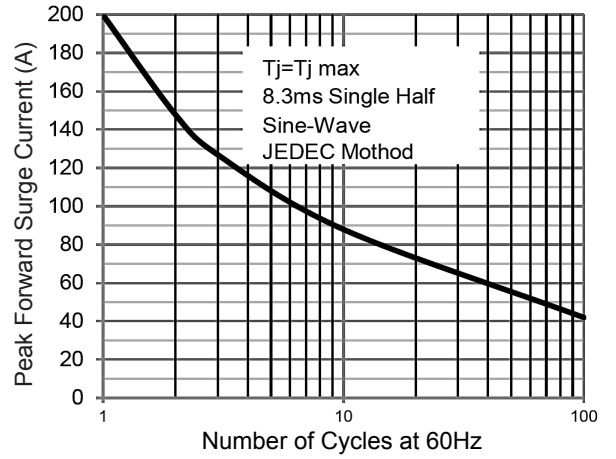


Figure 2. Maximum Non-Repetitive Surge Current

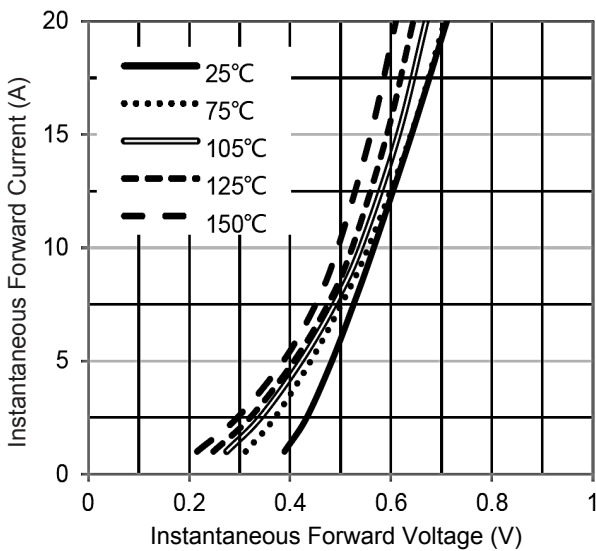


Figure 3. Typical Forward Voltage Characteristics

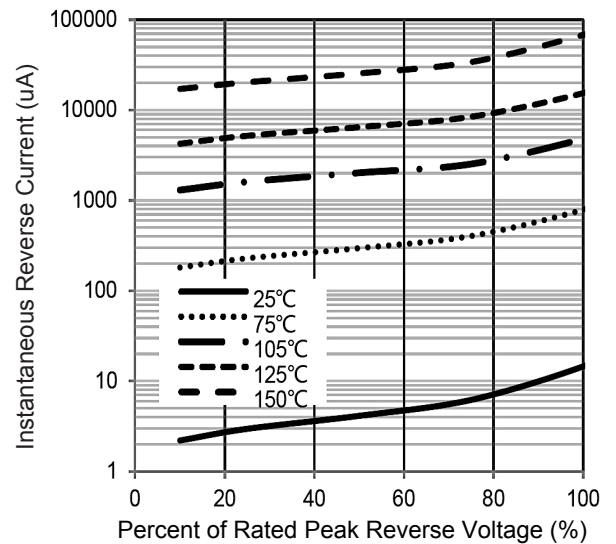


Figure 4. Typical Reverse Current Characteristics

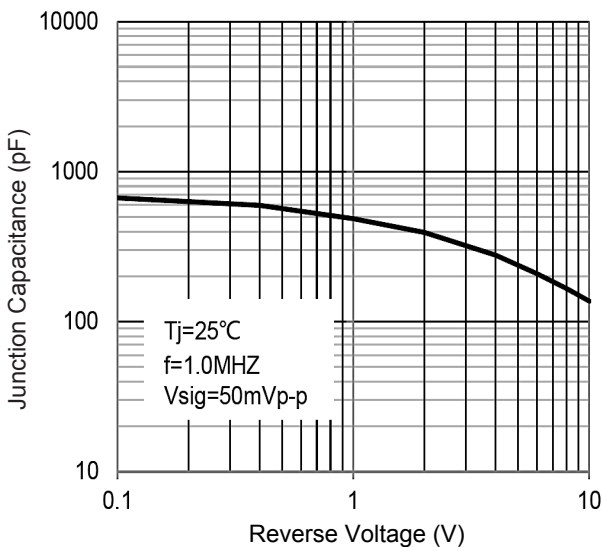
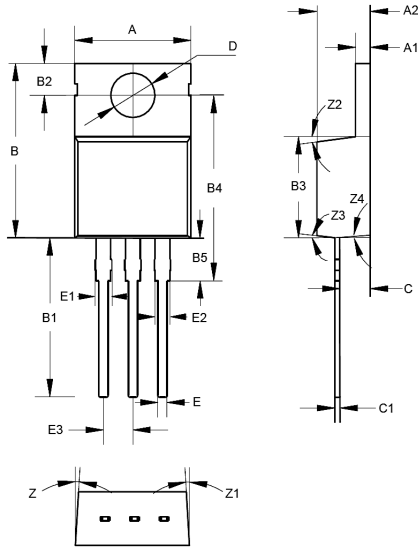


Figure 5. Typical Junction Capacitance

Package Outline Dimensions (TO-220AB)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	9.80	10.20	0.386	0.402
A1	1.17	1.37	0.046	0.054
A2	4.50	4.70	0.177	0.185
B	14.50	15.50	0.571	0.610
B1	13.20	14.20	0.520	0.559
B2	2.65	2.85	0.104	0.112
B3	8.50	8.90	0.335	0.350
B4	15.50	16.50	0.610	0.650
B5	3.40	4.00	0.134	0.157
C	2.30	2.90	0.091	0.114
C1	0.28	0.48	0.011	0.019
D	3.70	3.90	0.146	0.154
E	0.68	0.88	0.027	0.035
E1	1.20	1.60	0.047	0.063
E2	1.17	1.37	0.046	0.054
E3	2.44	2.64	0.096	0.104
Z	3° Nom		3° Nom	
Z1	3° Nom		3° Nom	
Z2	7° Nom		7° Nom	
Z3	7° Nom		7° Nom	
Z4	1.5° Nom		1.5° Nom	

Order Information

Device	Package	Marking	Packaging	SPQ
GSMBR40100CT	TO-220AB	MBR40100CT	Tube	50 Pcs / Tube

For more information, please contact us at: inquiry@goodarksemi.com