40.0A 100V Schottky Barrier Rectifiers

TO-220AB

RoHS COMPLIANT

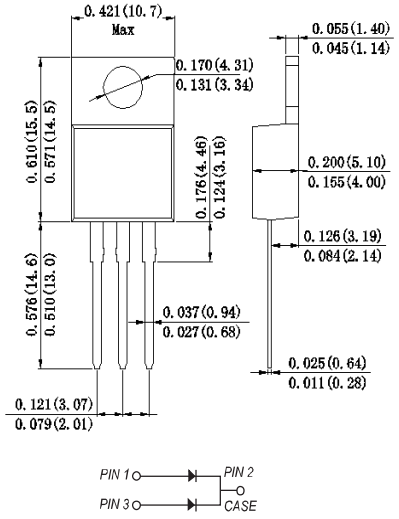
Pb-Free

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260℃/10 seconds at terminals

Mechanical Data

- Case : Molded plastic body
- Terminals : Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity : Polarity symbol marking on body
- Mounting Position : Any



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified. Single phase half-wave 60Hz,resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	MBR40100CT	Units
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 rectified current at T_C=110℃ Per device Per diode	$I_{(AV)}$	40.0 20.0	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	250.0	A
Typical thermal resistance	$R_{\theta JC}$	2.0	°C/W
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Parameter	Symbols	Type	Max	Units
Maximum instantaneous forward voltage per diode at 20.0A	V_F	0.84	0.88	V
Maximum DC reverse current at rated DC blocking voltage T_A =25℃ T_A=100℃	I_R	0.5 1	5 20	uA mA

Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

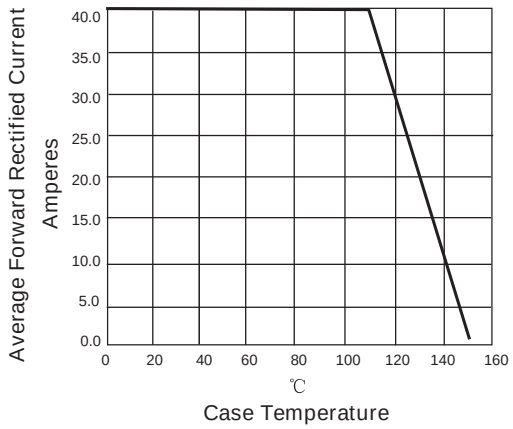


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

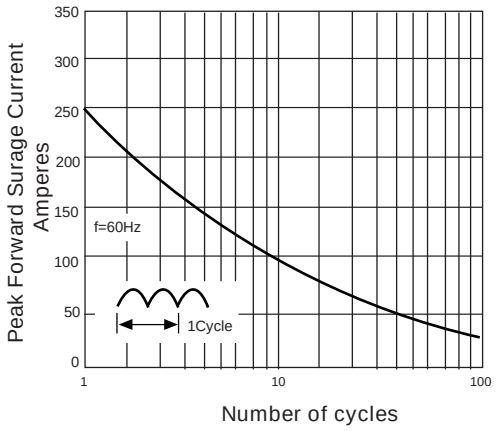


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

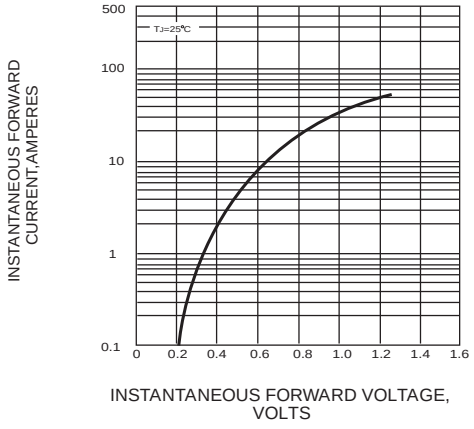
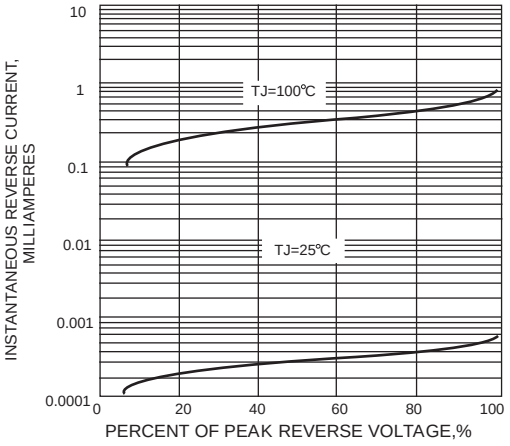
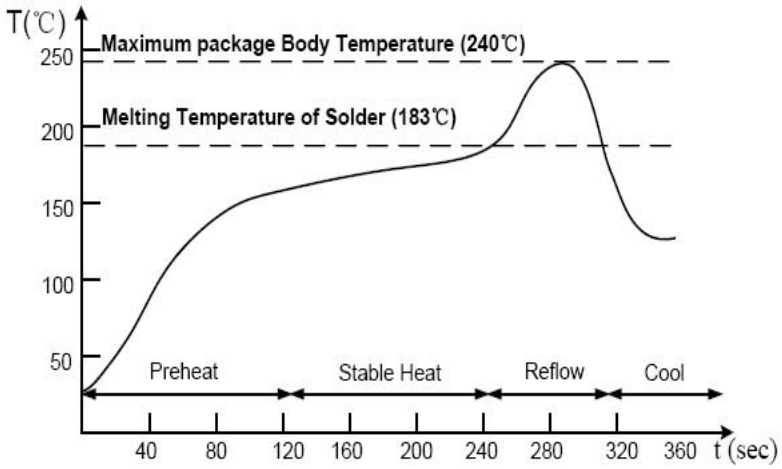


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Suggested Soldering Temperature Profile



Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 260°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Tube Package

Package	Tube (mm)	Q'TY/Tube (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
TO-220AB	525*31.9*6.4	0.05	545*150*45	1.0	575*245*170	5.0