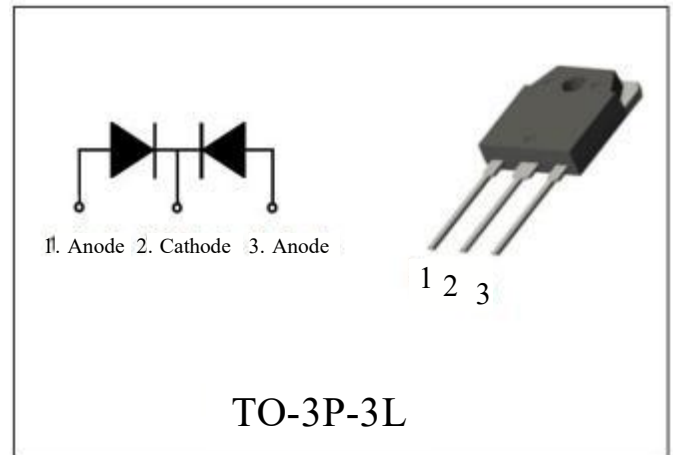


FEATURES

- Guard ring for transient protection
- Low power loss, High efficiency
- High current capability, low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications



Ordering Information

Type NO.	Marking	Package Code
QMRT80U40B	QM80U40B	TO-3P-3L

Absolute Maximum Ratings $T_C = 25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	400	V
Working Peak Reverse Voltage	V_{RWM}	400	V
DC Blocking Voltage	V_R	400	V
Average Rectified Forward Current	$I_{F(AV)}$	40*2	A
Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	I_{FSM}	300	A
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-65~+150	$^\circ\text{C}$

Thermal Resistance

Parameter	Symbol	Value(Max)	Unit
Thermal Resistance, Junction-to-Case	R_{thJC}	0.53	$^\circ\text{C}/\text{W}$

Specifications (per diode) $T_J = 25^\circ\text{C}$, unless otherwise noted

Symbol	Parameter		Min.	Typ.	Max.	Unit
V_{FM}	$I_F=40\text{A}$	$T_c=25^\circ\text{C}$	-	-	1.5	V
	$I_F=40\text{A}$	$T_c=150^\circ\text{C}$	-	-	1.3	V
I_R	$V_R=400\text{V}$	$T_c=25^\circ\text{C}$	-	-	10	μA
	$V_R=400\text{V}$	$T_c=150^\circ\text{C}$	-	-	100	μA
t_{tr}	$I_F=1\text{A}, di/dt=100\text{A}/\mu\text{s}, V_{CC}=30\text{V}$	$T_c=25^\circ\text{C}$	-	-	50	ns
	$I_F=40\text{A}, di/dt=200\text{A}/\mu\text{s}, V_{CC}=195\text{V}$	$T_c=25^\circ\text{C}$	-	-	75	ns
t_a	$I_F=30\text{A}, di/dt=200\text{A}/\mu\text{s}, V_{CC}=195\text{V}$	$T_c=25^\circ\text{C}$	-	17	-	ns
t_b		$T_c=25^\circ\text{C}$	-	15	-	ns
Q_{tr}		$T_c=25^\circ\text{C}$	-	50	-	nC
W_{AVL}	Avalanche Energy ($L=20\text{mH}$)		20	-	-	mJ

Notes: Pulse Test: Pulse width =300 μs , Duty Cycle =2%

Typical Characteristics $T_J = 25^\circ\text{C}$, unless otherwise noted

Figure 1. Typical Forward Voltage Drop

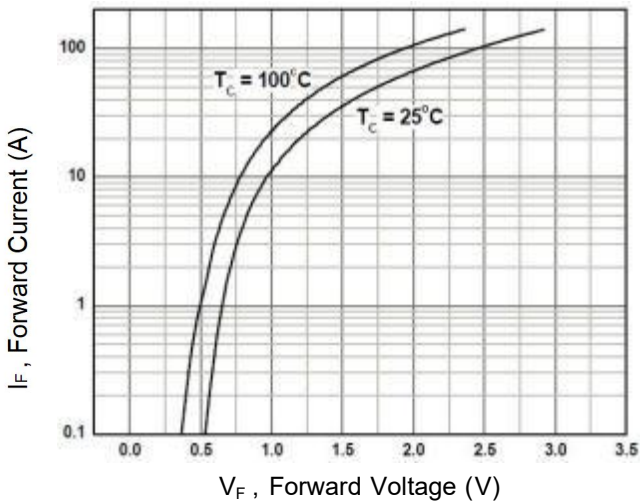


Figure 2. Typical Reverse Current

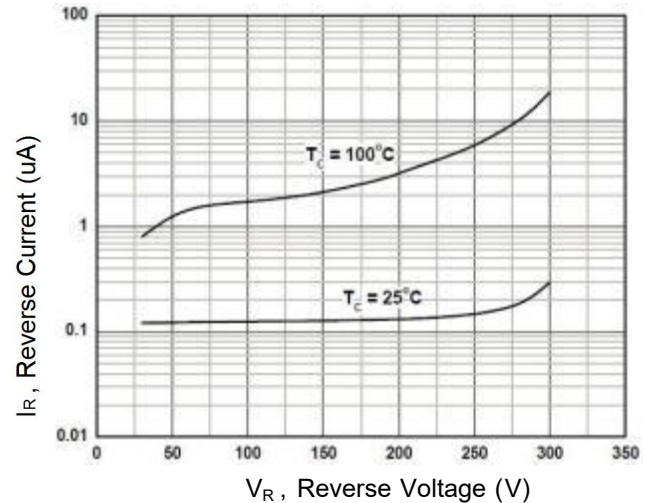


Figure 3. Typical Junction Capacitance

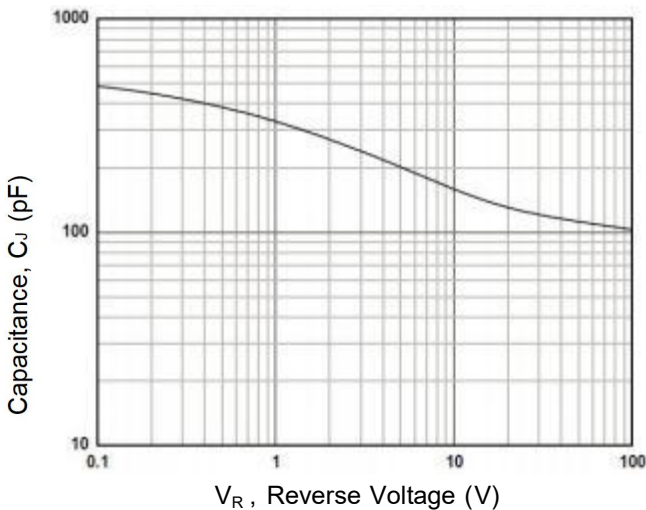
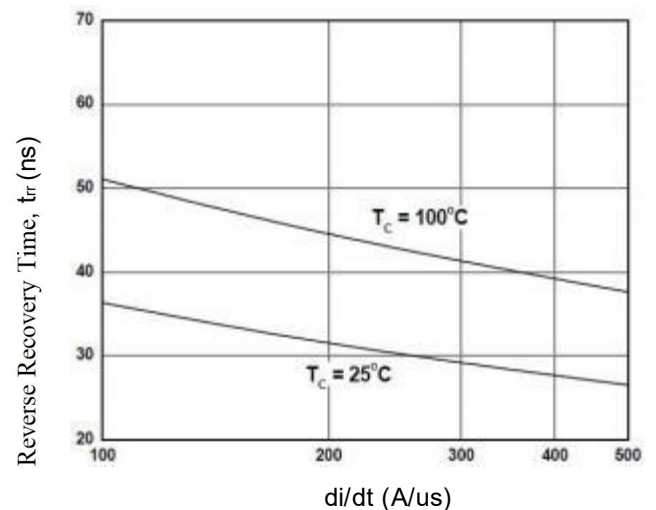
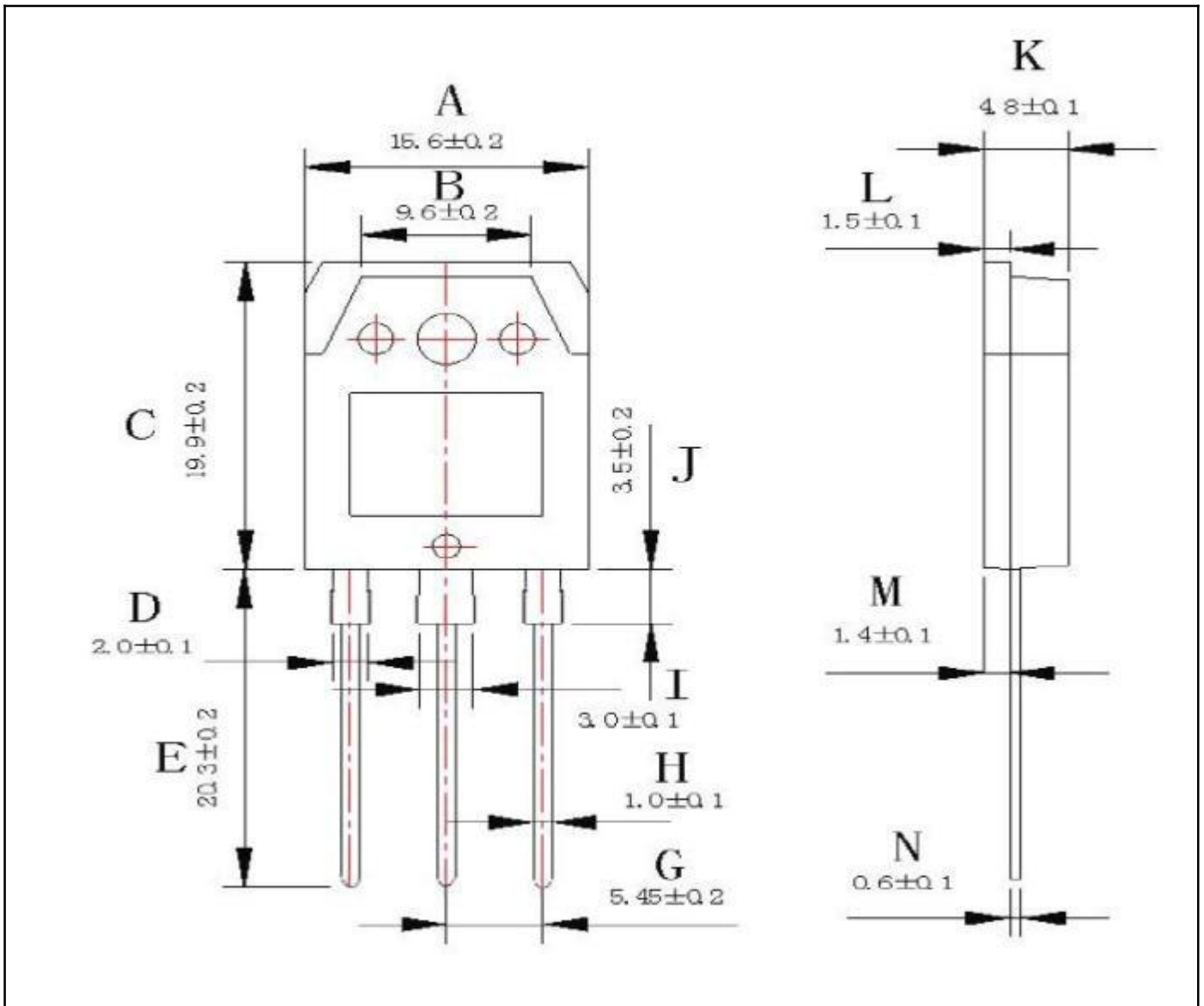


Figure 4. Typical Reverse Recovery Time



Outline Dimension

Unit: mm



Revision:

Revision	Date	Subjects (major changes since last revision)
1.0	2022-05-08	