

High Efficient Rectifier diodes

Features

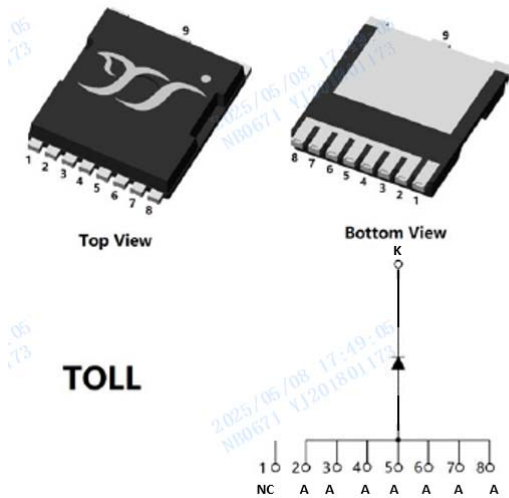
- Based on silicon planar process, low V_f
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

Typical Applications

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, office equipment, industrial automation applications.

Mechanical Data

- **Package:** TOLL
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked



■Maximum Ratings ($T_j=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR4580E
Device marking code			MUR4580E
Repetitive Peak Reverse Voltage	V_{RRM}	V	800
Average Rectified Output Current @60Hz half sine-wave, R-load, T_c (FIG.1)	I_o	A	45
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_j=25^{\circ}\text{C}$	I_{FSM}	A	600
Current Squared Time @1ms≤t≤8.3ms $T_j=25^{\circ}\text{C}$	I^2t	A^2s	1494
Storage Temperature	T_{stg}	$^{\circ}\text{C}$	-55 ~ +175
Junction Temperature	T_j	$^{\circ}\text{C}$	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C_j	pF	339



MUR4580E

■Electrical Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V _{FM}	V	I _{FM} =45.0A T _j =25°C	-	0.91	0.96
			I _{FM} =45.0A T _j =125°C		0.81	0.86
DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	μA	V _{RM} =V _{RRM} T _j =25°C	-	-	5.0
	I _{RRM2}		V _{RM} =V _{RRM} T _j =125°C	-	-	200
Reverse Recovery Time	T _{rr}	ns	I _F =0.5A I _{RM} =1A I _{RR} =0.25A T _j =25°C	-	850	1000
			T _j =25°C	-	465	-
			T _j =125°C	-	547	-
Peak recovery current	I _{RRM}	A	T _j =25°C	-	43.4	-
			T _j =125°C	-	49.1	-
Reverse recovery charge	Q _{rr}	μC	T _j =25°C	-	13.4	-
			T _j =125°C	-	17.9	-

■Thermal Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MURB3080
Thermal Resistance	Between junction and case	R _{θJ-C}	°C/W	0.5
	Between junction and Air	R _{θJ-A}	°C/W	35

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR4580E	Approximate 0.8	2000	4000	20000	Reel



■ Characteristics (Typical)

FIG1: I_o - T_c Curve

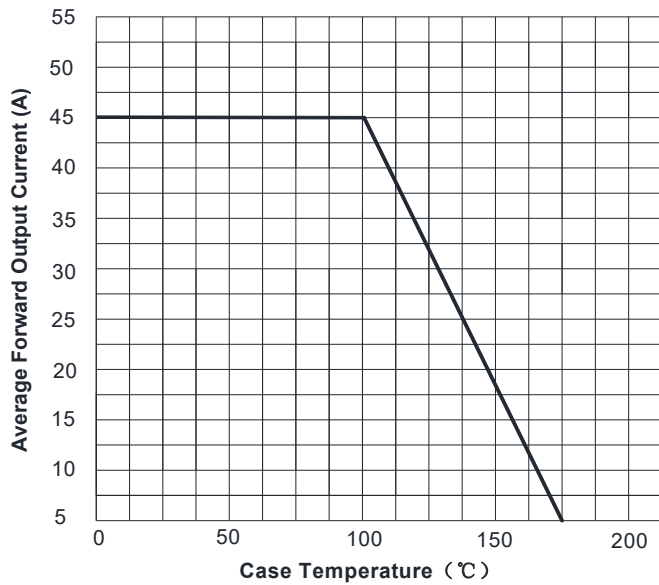


FIG2: Surge Forward Current Capability

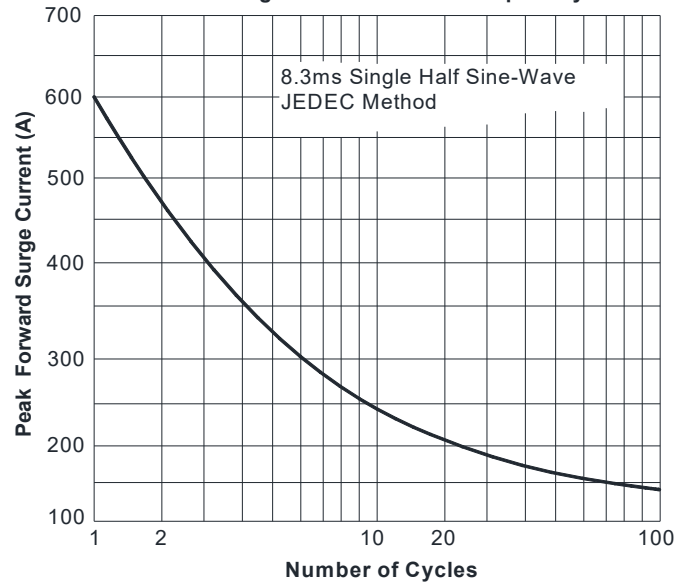


FIG3: Forward Voltage

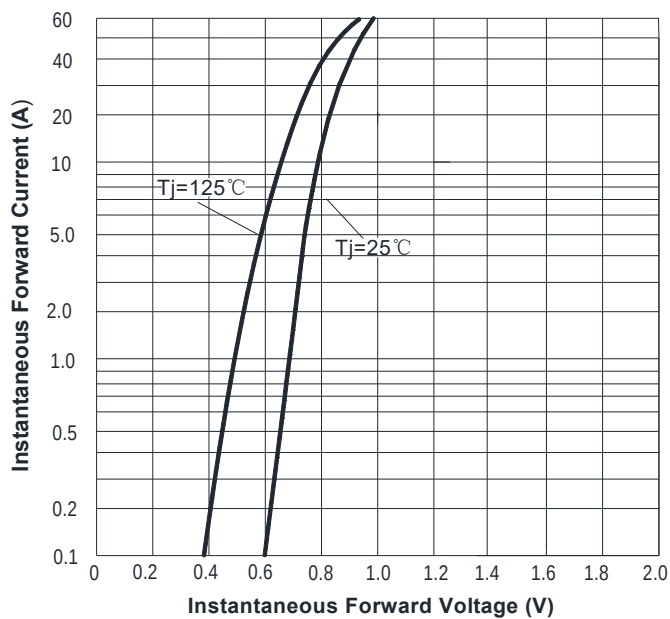


FIG4: Typical Reverse Characteristics

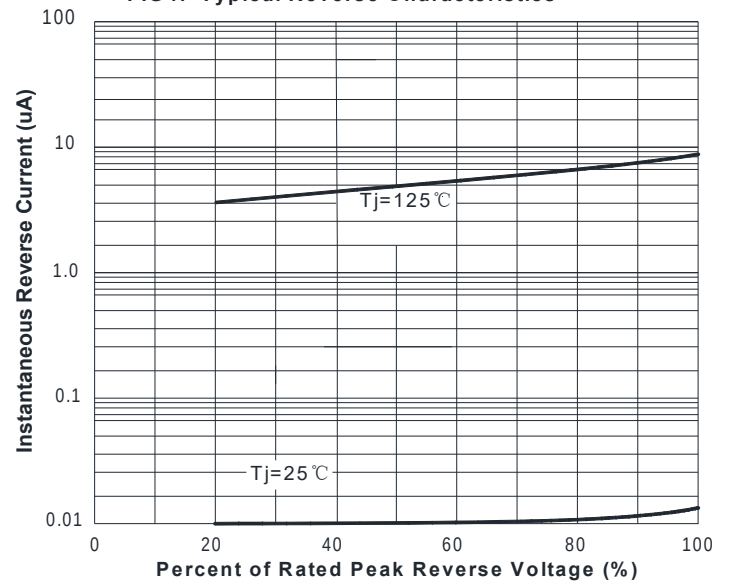
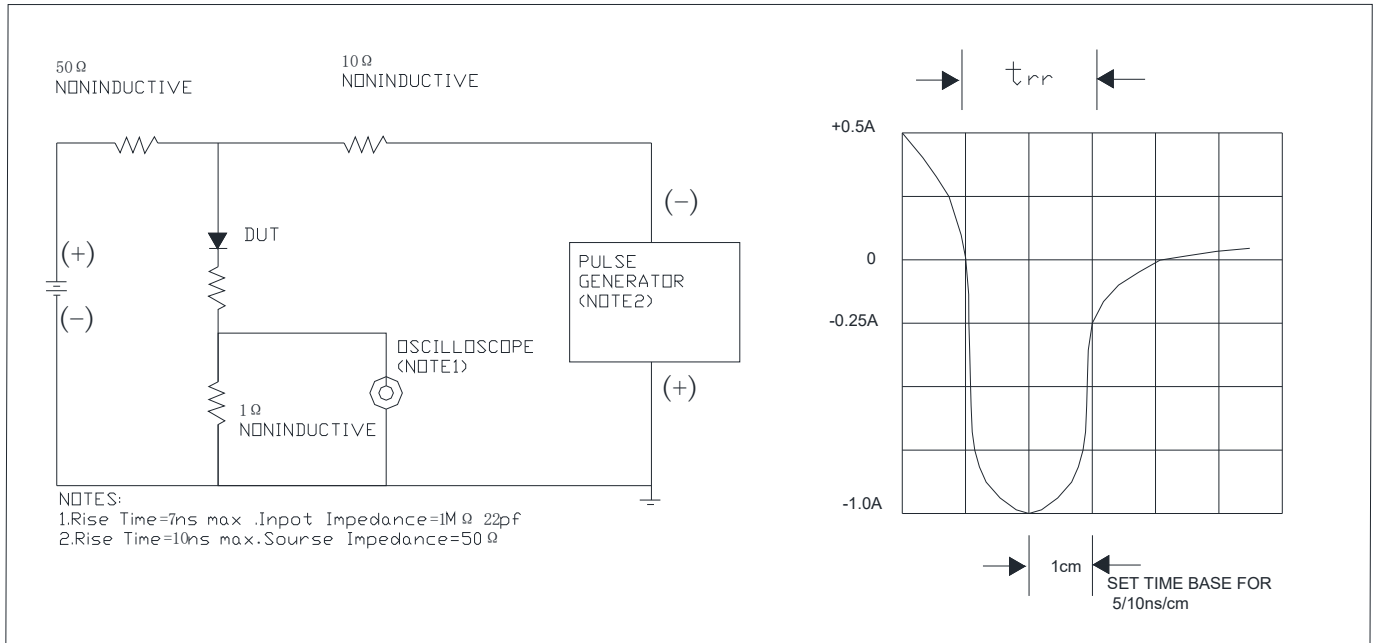
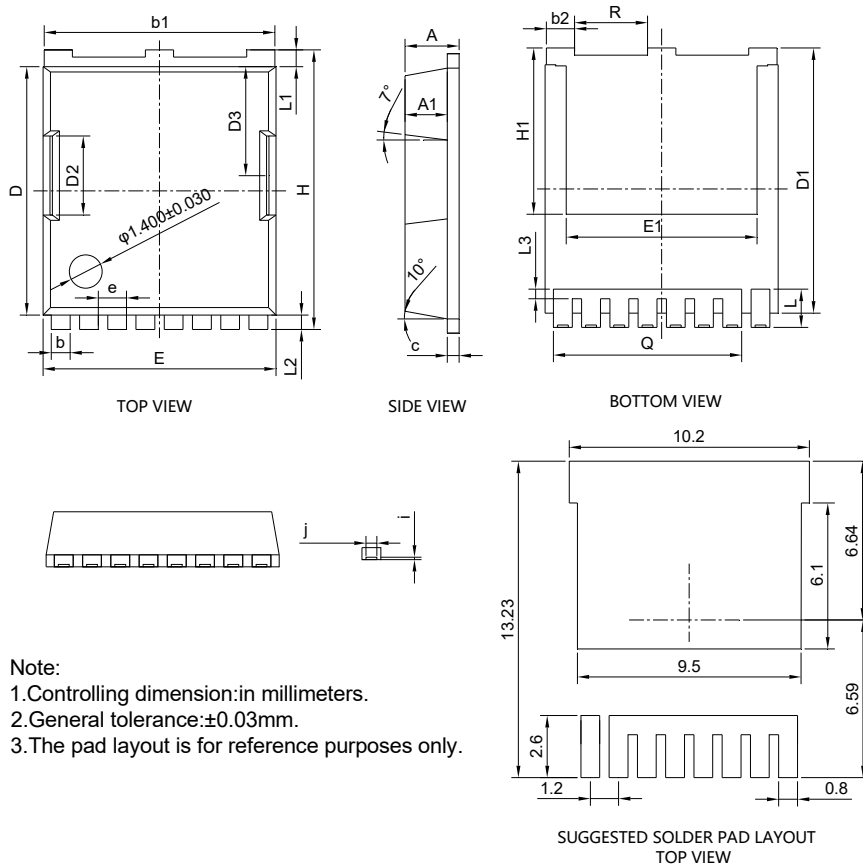


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time



Outline Dimensions



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	2.2	2.3	2.4
A1	1.7	1.8	1.9
b	0.7	0.8	0.9
b1	9.7	9.8	9.9
b2	1.1	1.2	1.3
c	0.4	0.5	0.6
D	10.28	10.38	10.48
D1	10.98	11.08	11.18
D2	3.2	3.3	3.4
D3	4.45	4.55	4.65
E	9.8	9.9	10
E1	8	8.1	8.2
e	1.2 BSC		
H	11.58	11.68	11.78
H1	6.95 BSC		
i	0.1 REF		
j	0.46 REF		
L	1.5	1.6	1.7
L1	0.6	0.7	0.8
L2	0.5	0.6	0.7
L3	0.3	0.4	0.5
Q	8 REF		
R	3.0	3.1	3.2

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.03 mm.
3. The pad layout is for reference purposes only.

UNIT: mm



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