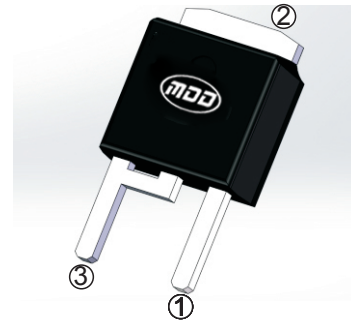


## FAST RECOVERY EPI DIODES

### FEATURES

- ◆ High frequency operation
- ◆ 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

### TO-251ACW



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MCHARACTERISTICS	SYMBOL	MUR1020NS	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	V
Maximum RMS voltage	$V_{RMS}$	140	V
Maximum DC blocking voltage	$V_{DC}$	200	V
Maximum average forward rectified current	$I_{(AV)}$	10.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	120	A
Maximum instantaneous forward voltage at 10.0A DC	$V_F$	1.0	V
Maximum DC reverse current at rated DC blocking voltage $T_A=25^{\circ}C$ $T_A=125^{\circ}C$	$I_R$	10 100	$\mu A$
Typical junction capacitance (NOTE 1)	$C_J$	85	pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	50	$^{\circ}C/W$
Maximum Reverse Recovery Time(Note3)	$T_{rr}$	35	ns
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	$^{\circ}C$

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. Thermal resistance from junction to case.  
 3. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .



Rating and Characteristic Curves

Fig.1 Maximum Average Forward Current Rating

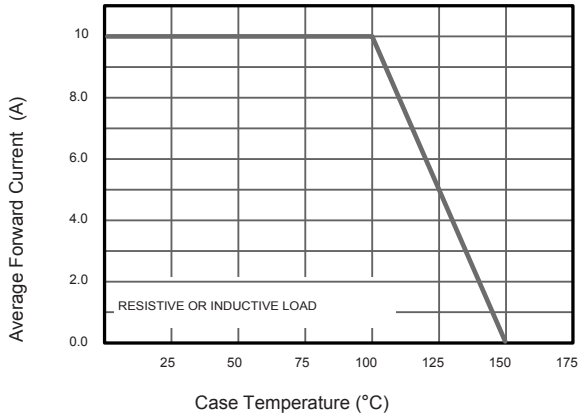


Fig.2 Typical Reverse Characteristics

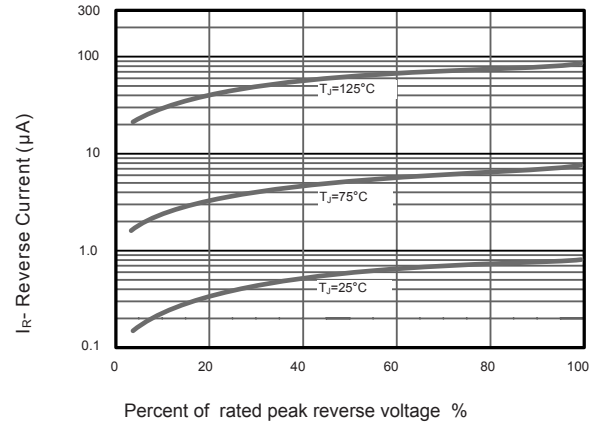


Fig.3 Typical Forward Characteristics

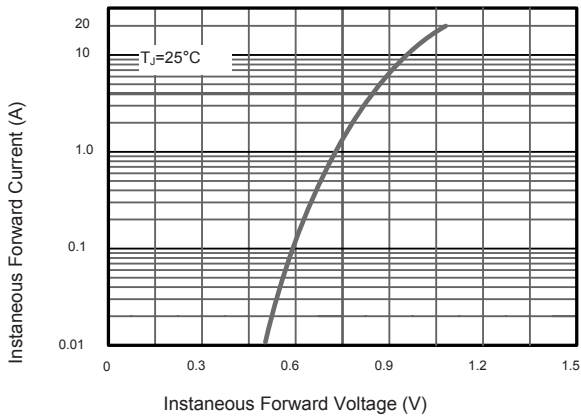


Fig.4 Typical Junction Capacitance

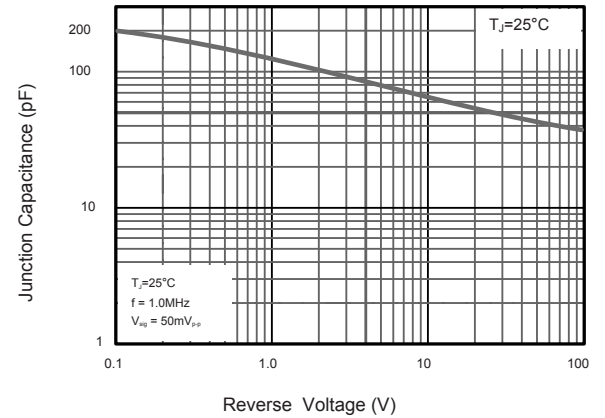


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

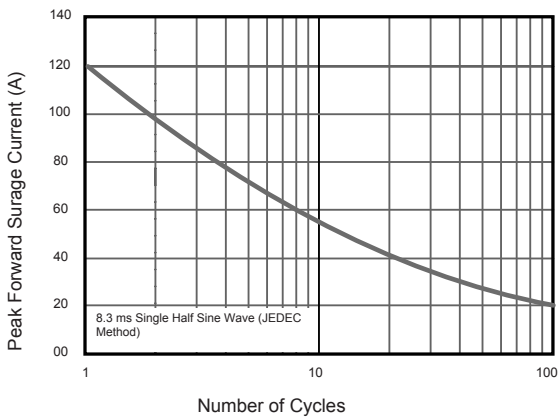
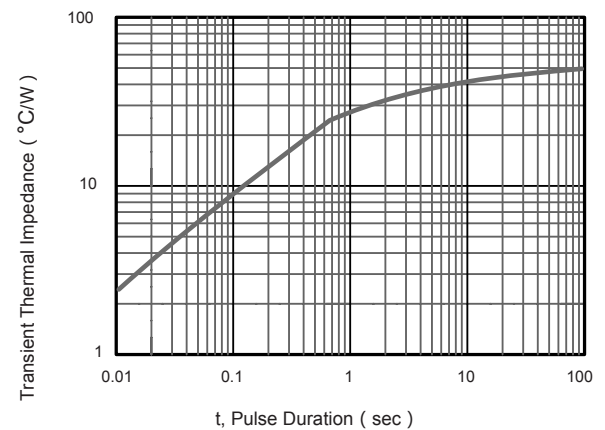


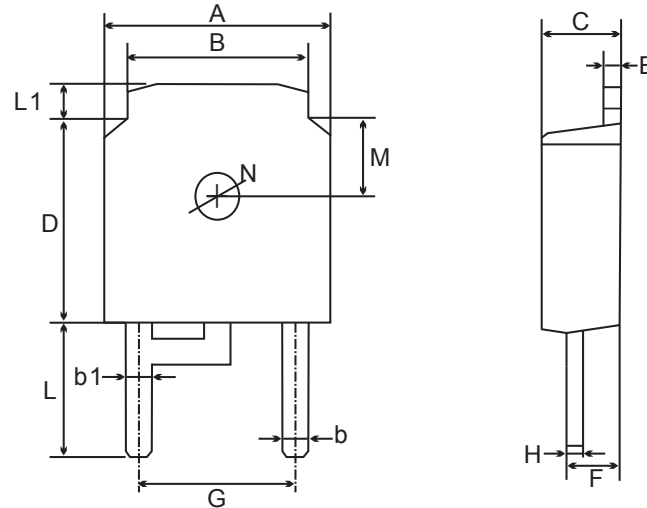
Fig.6- Typical Transient Thermal Impedance



The curve above is for reference only.

## Outlitne Drawing

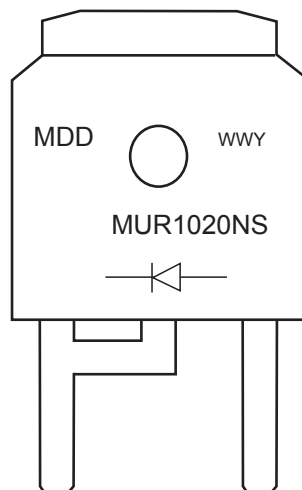
### TO-251ACW Package Outline Dimensions



### TO-251ACW mechanical data

UNIT		A	B	b	b1	C	D	E	F	G	H	L	L1	M	N
mm	max	6.7	5.5	0.8	0.9	2.5	6.3	0.6	1.8	4.60 TYPICAL	0.55	4.3	1.2	1.8 TYPICAL	1.3 TYPICAL
	min	6.3	5.1	0.3	0.76	2.1	5.9	0.4	1.3		0.45	3.9	0.8		
mil	max	264	217	31	35	98	248	24	71	181 TYPICAL	22	169	47	71 TYPICAL	51 TYPICAL
	min	248	201	12	30	83	232	16	51		18	154	31		

## Marking Drawing



WWY: Date Code  
 WW: Week  
 Y: Numeric code at the end of the year (A~K)  
 MUR1020NS : Product name  
 (NOTE: The weekly code is based on the actual number of weeks in the calendar year.)

## Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
TO-251ACW	13'	330	2500	340×336×29	2500	353×346×365	25000