



### Features

- 1200-Volt Schottky Rectifier
- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Extremely Fast Switching
- Positive Temperature Coefficient on  $V_F$



TO-252N-2L

### Benefits

- Replace Bipolar with Unipolar Rectifiers
- Essentially No Switching Losses
- Higher Efficiency
- Reduction of Heat Sink Requirements
- Parallel Devices Without Thermal Runaway



### Applications

- Switch Mode Power Supplies
- Power Factor Correction
- Motor Drives



Part Number	Package	Qty(PCS)
GB01SLT12-252	TO-252N-2L	2500

### Maximum Ratings (T<sub>c</sub> = 25°C unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions
$V_{RRM}$	Repetitive Peak Reverse Voltage		V	
$V_{RSM}$	Surge Peak Reverse Voltage		V	
$I_F$	Continuous Forward Current	4.5 2.2 1	A	T <sub>c</sub> =25°C T <sub>c</sub> =135°C T <sub>c</sub> =164.5°C
$I_{FRM}$	Repetitive Peak Forward Surge Current	7.5	A	T <sub>c</sub> =25°C, t <sub>p</sub> = 10 ms, Half Sine Wave
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current	15	A	T <sub>c</sub> =25°C, t <sub>p</sub> = 10 ms, Half Sine Wave
$P_{tot}$	Power Dissipation	28 12	W	T <sub>c</sub> =25°C T <sub>c</sub> =110°C
T <sub>J</sub> , T <sub>stg</sub>	Operating Junction and Storage Temperature	-55 to +175	°C	



### Electrical Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
$V_{DC}$	DC Blocking Voltage	1200			V	
$V_F$	Forward Voltage		1.39 2.02	1.7 2.5	V	$I_F = 1\text{ A } T_J = 25^\circ\text{C}$ $I_F = 1\text{ A } T_J = 175^\circ\text{C}$
$I_R$	Reverse Current		0.6 3.4	50 100	$\mu\text{A}$	$V_R = 1200\text{ V } T_J = 25^\circ\text{C}$ $V_R = 1200\text{ V } T_J = 175^\circ\text{C}$
$Q_C$	Total Capacitive Charge		5.6		nC	$V_R = 800\text{ V } T_J = 25^\circ\text{C}$
C	Total Capacitance		71 5.4 4.6		pF	$V_R = 0\text{ V}, T_J = 25^\circ\text{C}, f = 1\text{ MHz}$ $V_R = 400\text{ V}, T_J = 25^\circ\text{C}, f = 1\text{ MHz}$ $V_R = 800\text{ V}, T_J = 25^\circ\text{C}, f = 1\text{ MHz}$
$E_C$	Capacitance Stored Energy		2.8		$\mu\text{J}$	$V_R = 800\text{ V}$

### Thermal Characteristics

Symbol	Parameter	Typ.	Unit
$R_{\theta JC}$	Thermal Resistance from Junction to Case	5.3	$^\circ\text{C/W}$

### Typical Performance

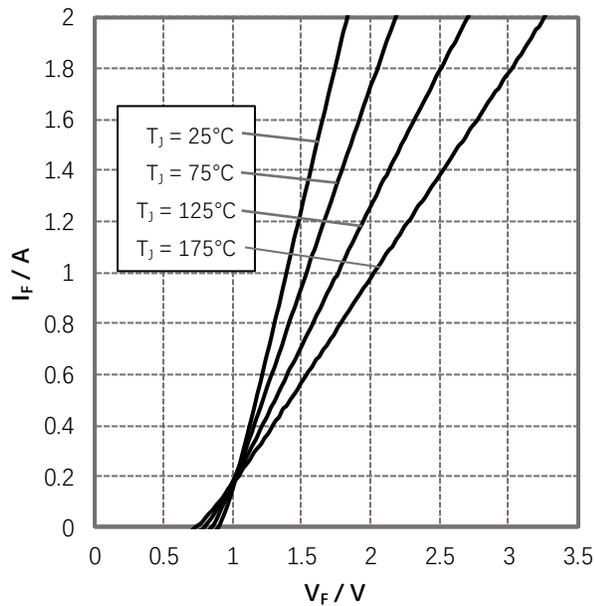


Figure 1. Forward Characteristics

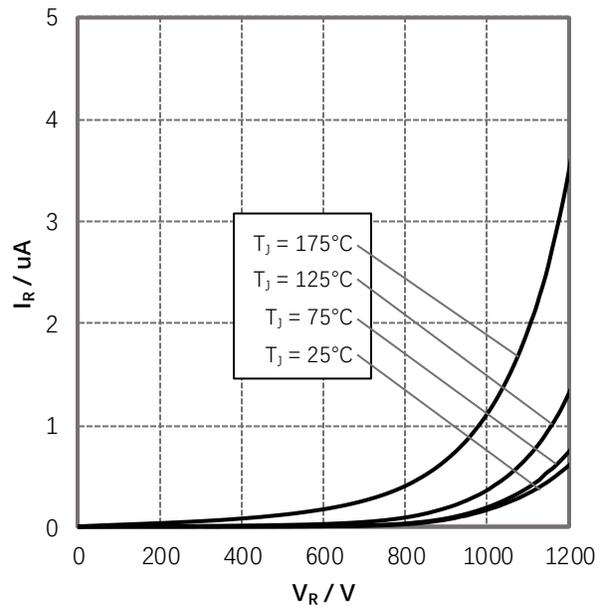


Figure 2. Reverse Characteristics

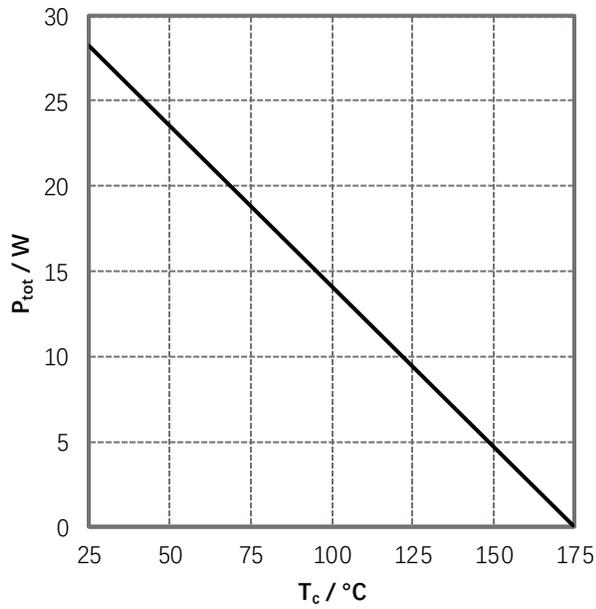


Figure 3. Power Derating

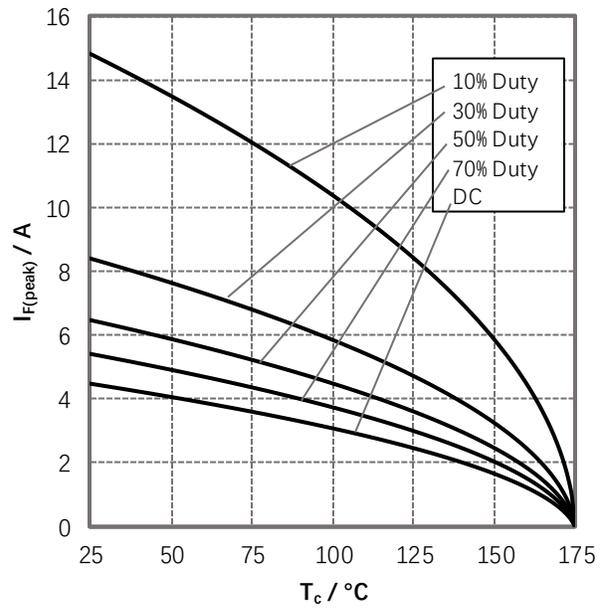


Figure 4. Current Derating

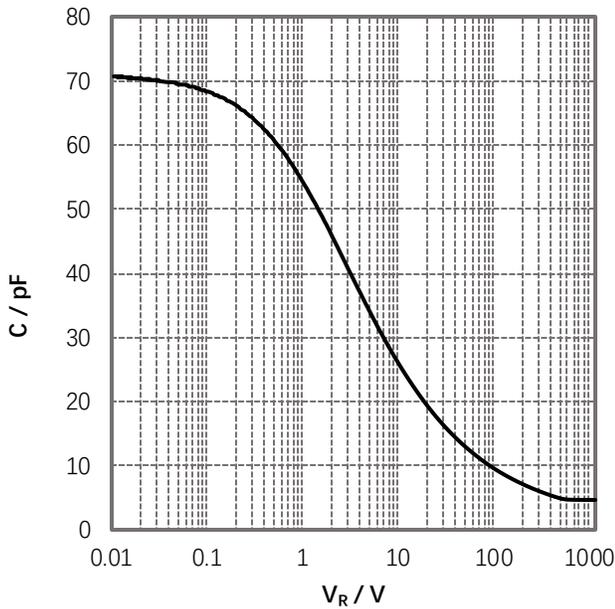


Figure 5. Capacitance vs. Reverse Voltage

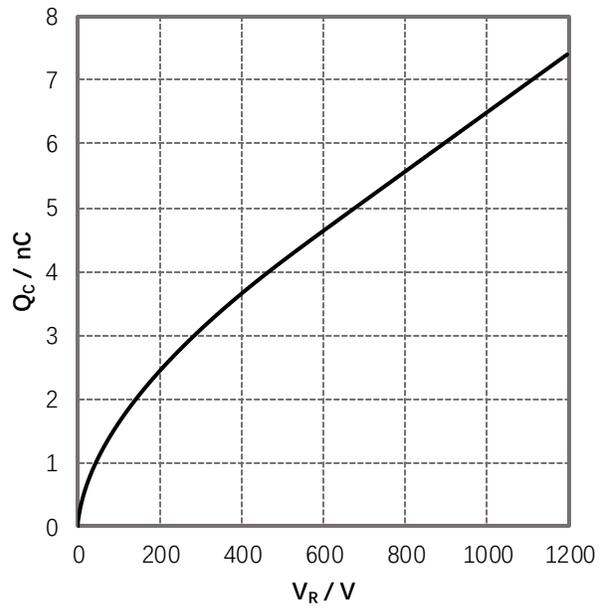


Figure 6. Total Capacitance Charge vs. Reverse Voltage

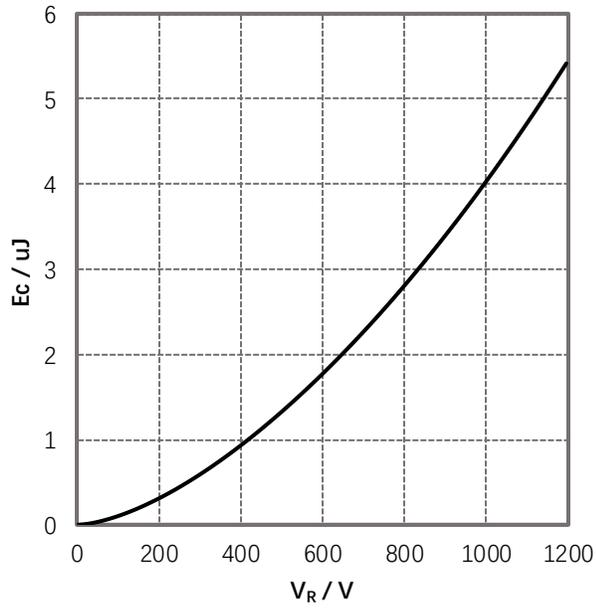


Figure 7. Capacitance Stored Energy

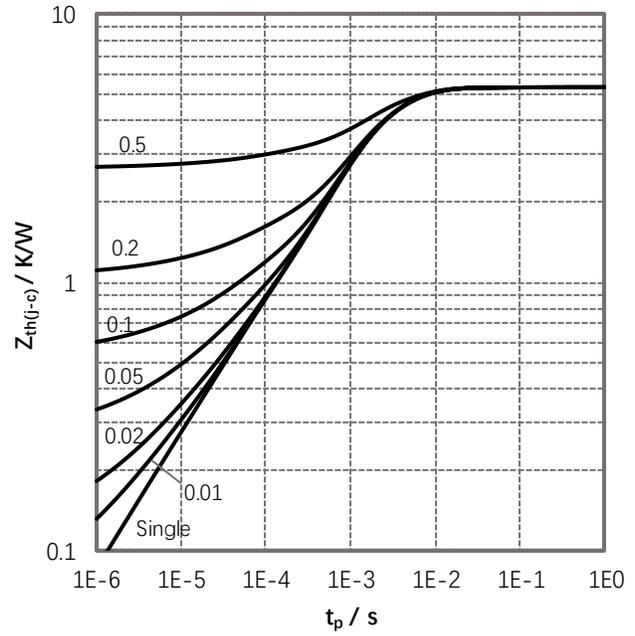
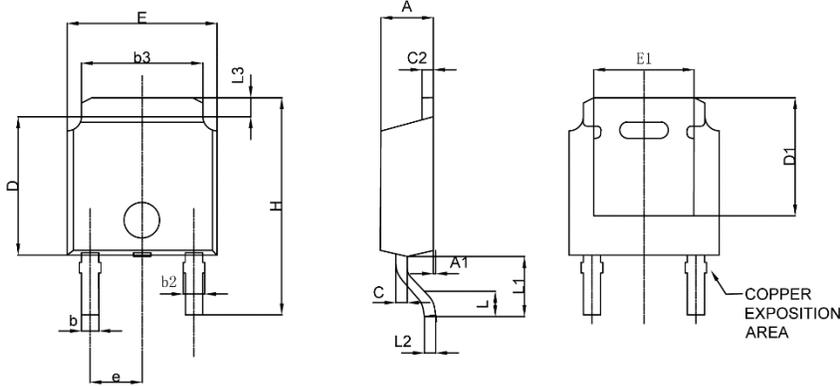


Figure 8. Transient Thermal Impedance



**Package Information**  
**TO-252N-2L**



Symbol	DIMENSIONAL REQMTS		
	Min	Nom	Max
E	6.35	6.60	6.73
L	1.40	1.52	1.78
L1	2.743REF		
L2	0.508BSC		
L3	0.89	---	1.27
D	5.97	6.10	6.22
H	9.40	10.00	10.40
b	0.64	0.76	0.89
b2	0.76	0.84	1.14
b3	4.95	5.34	5.46
e	2.286BSC		
A	2.18	2.30	2.39
A1	0.00	---	0.13
c	0.46	0.50	0.61
c2	0.46	0.50	0.60
D1	5.21	---	---
E1	4.32	---	---

Note:

1. All Dimension Are In mm
2. Package Body Sizes Exclude Mold Flash, Protrusion Or Gate Burrs. Mold Flash, Protrusion Or Gate Burrs Shall Not Exceed 0.10mm Per Side.
3. Package Body Sizes Determined At The Outermost Extremes Of The Plastic Body Exclusive Of Mold Flash, Gate Burrs And Interlead Flash, But Including Any Mismatch Between The Top And Bottom Of The Plastic Body.
4. The Package Top May Be Smaller Than The Package Bottom.
5. Dimension "b" Does Not Include Dambar Protrusion. Allowable Dambar Protrusion Shall Be 0.10mm Total In Excess Of "b" Dimension At Maximun Material Condition. The Dambar Cannot Be Located On The Lower Radius Of The Foot.



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