

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## FEATURES

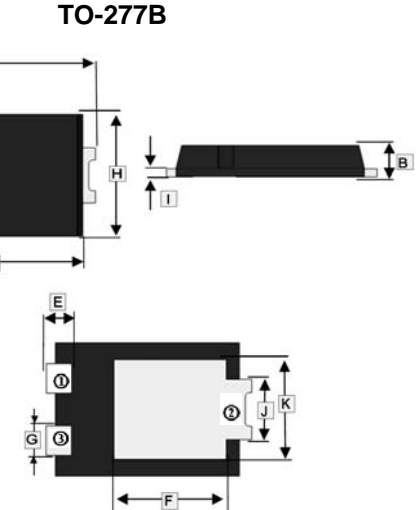
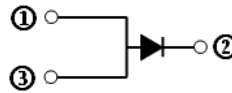
- Super long operating life
- Low forward voltage
- Low forward voltage drop
- Plastic package has Underwriters Laboratory Flammability Classification 94

## MECHANICAL DATA

- Case: TO-277B molded plastic body
- Polarity: Color band denotes cathode end
- Mounting position: ANY

## PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-277B	3K	13 inch



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.40	6.60	G	0.85	0.95
B	0.90	1.10	H	3.90	4.10
C	5.70	5.90	I	0.25 REF.	
D	1.80	1.95	J	1.75	1.85
E	0.75	0.85	K	2.95	3.05
F	3.45	3.60			

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, de-rate current by 20%.)

Parameters	Symbol	Rating	Units
Maximum Repetitive peak Reverse Voltage	$V_{RRM}$	45	V
Maximum RMS Voltage	$V_{RMS}$	32	V
Maximum DC Blocking Voltage	$V_{DC}$	45	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	10	A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	$I_{FSM}$	275	A
Thermal Resistance Junction to Ambient <sup>1</sup>	$R_{\theta JA}$	35	°C / W
Thermal Resistance Junction to Case <sup>2</sup>	$R_{\theta JC}$	7	°C / W
Operating and Storage Temperature Range	$T_J, T_{STG}$	125, -55~150	°C

Note:

1. To evaluate the maximum conduction losses use the following equation :  $PF(av) = 0.37X I_F(av) + 0.01X I_2F(RMS)$
2. FR4 Board Heat sink size: 10\*10\*0.2mm.

## ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	$V_F$	0.45	0.51	V	$I_F = 8A, T_J = 25^\circ C$
		0.47	0.53		$I_F = 10A, T_J = 25^\circ C$
		0.42	0.48		$I_F = 10A, T_J = 125^\circ C$
Maximum DC Reverse Current at Rated DC Blocking Voltage <sup>2</sup>	$I_R$	0.07	0.5	mA	$T_J = 25^\circ C$
		36	50		$T_J = 100^\circ C$
Typical Junction Capacitance <sup>1</sup>	$C_J$	795	-	pF	

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Pulse Test : Pulse Width = 300  $\mu s$ , Duty Cycle  $\leq 2.0\%$ .

**CHARACTERISTIC CURVES**

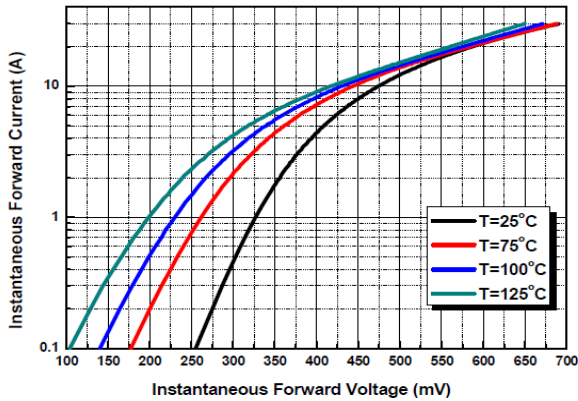


Figure 1. Typical Forward Characteristics per Diode

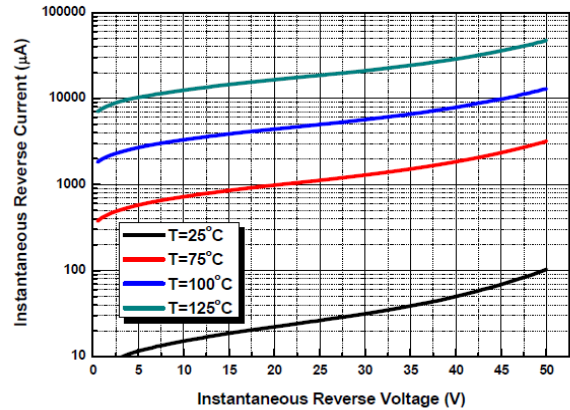


Figure 2. Typical Reverse Characteristics per Diode

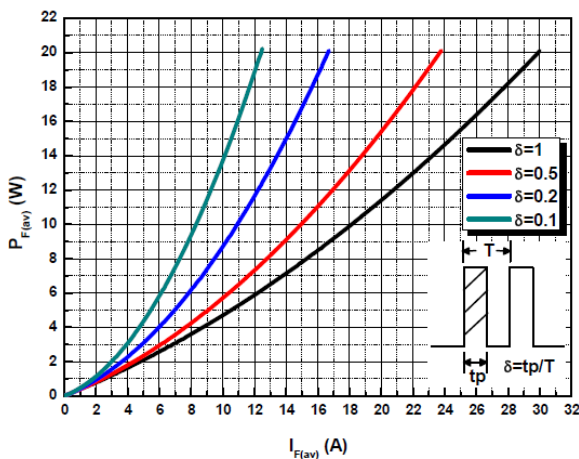


Figure 3. Average Forward Power Dissipation per Diode

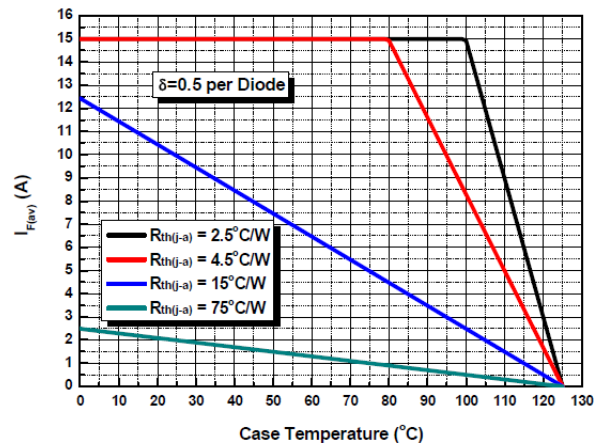


Figure 4. Current Derating Curves

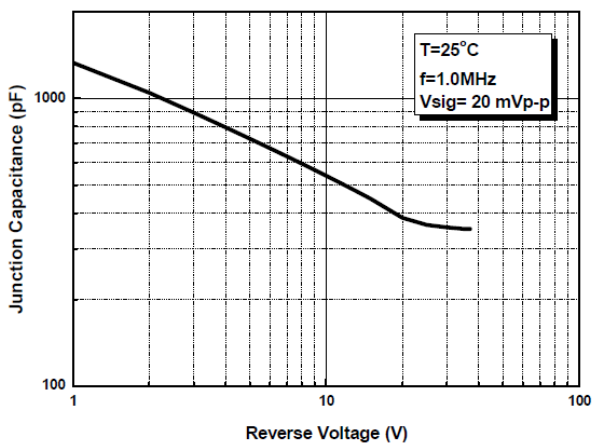


Figure 5. Typical Junction Capacitance per Diode