

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

### FEATURES

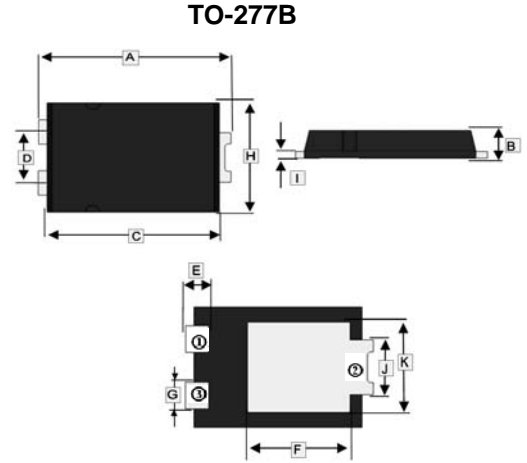
- Super long operating life
- Low forward voltage
- Low forward voltage drop
- Plastic package has Underwriters Laboratory Flammability Classification 94

### MECHANICAL DATA

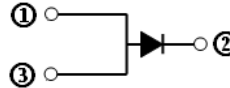
- Case: TO-277B molded plastic body
- Polarity: Color band denotes cathode end
- Mounting position: ANY

### 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	$I_{F(AV)}$	15	A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	$I_{FSM}$	300	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, -55~125	°C

Note:

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

### ELECTRICAL CHARACTERISTICS

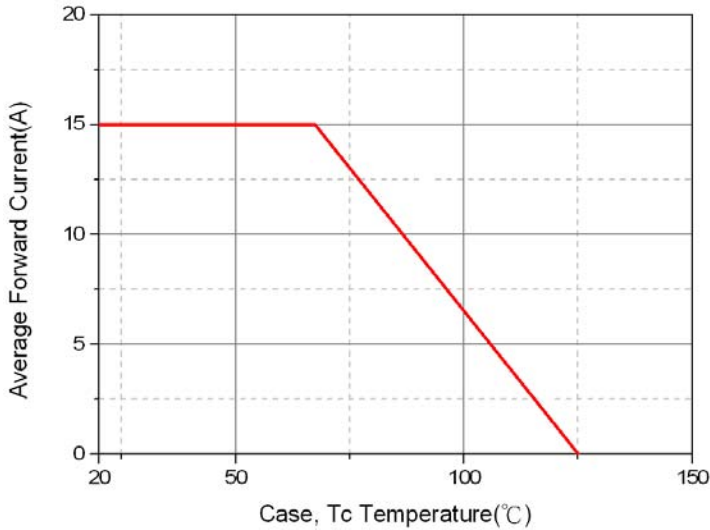
Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Maximum Instantaneous Forward Voltage	$V_F$	0.43	0.48	V	$I_F = 10A, T_J = 25^\circ C$
		0.47	0.53		$I_F = 15A, T_J = 25^\circ C$
		0.42	-		$I_F = 15A, T_J = 125^\circ C$
Maximum DC Reverse Current at Rated DC Blocking Voltage <sup>2</sup>	$I_R$	0.02	0.2	mA	$T_J = 25^\circ C$
		7	50		$T_J = 100^\circ C$
Typical Junction Capacitance <sup>1</sup>	$C_J$	680	-	pF	

NOTES:

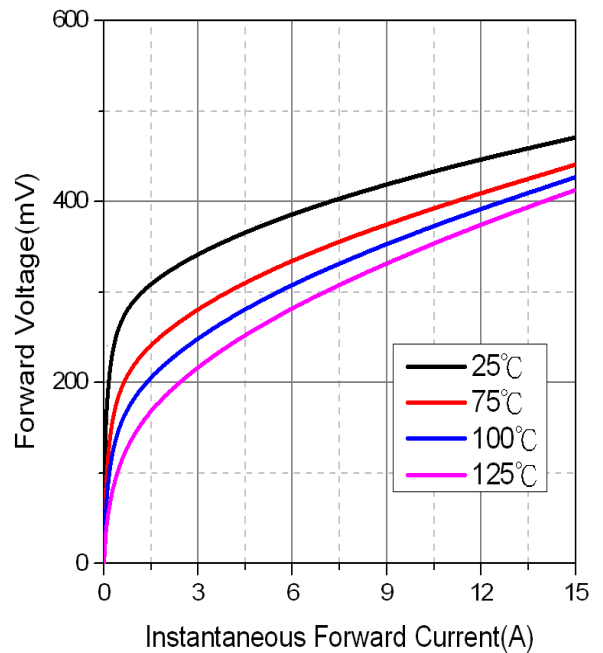
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.
- Pulse Test : Pulse Width = 300  $\mu s$ , Duty Cycle  $\leq$  2.0%.

**CHARACTERISTIC CURVES**

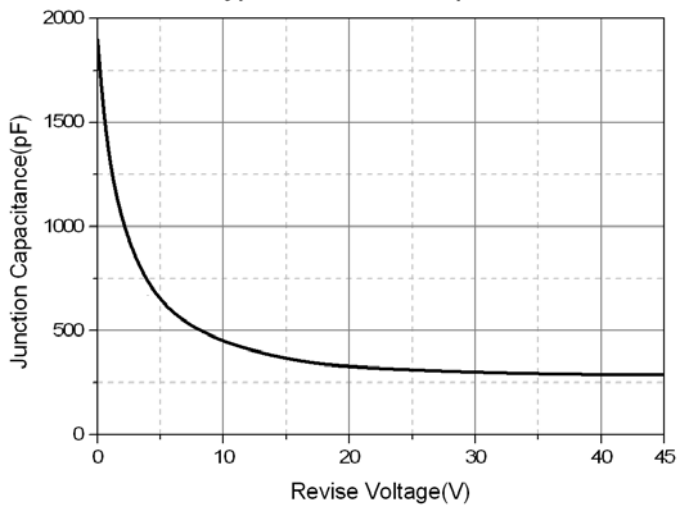
Typical Forward Current Derating Curve



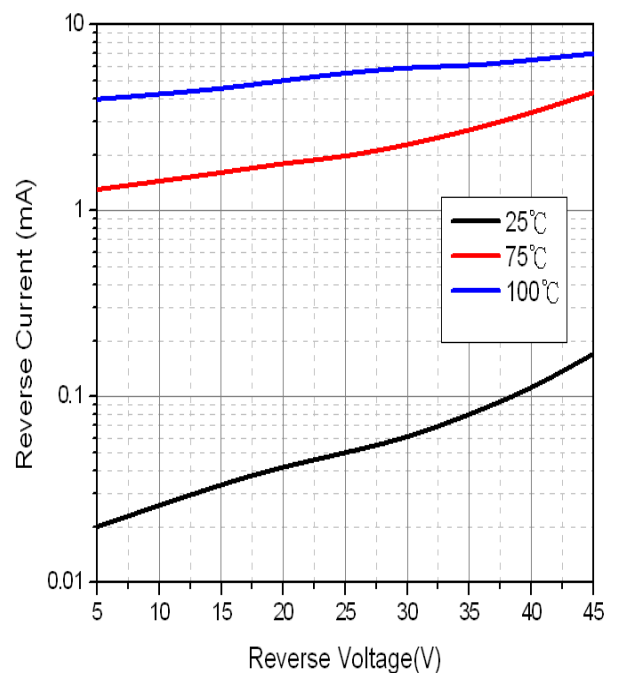
Typical Forward Characteristic



Typical Junction Capacitance



Typical Reverse Characteristic



Maximum Non-Repetitive Forward Surge Current

