

### 10A Ultra Low $V_F$ , Surperfast, High Performance Rectifier

#### Features

- Plastic package has UL Flammability Classification 94V-0 Utilizing Flame Retardant Epoxy Molding Compound
- Exceeds environmental standards of ML-S-19500/228
- RoHS compliant



SMC



#### Mechanical Data

<b>Case:</b>	SMC Molded Plastic
<b>Terminals:</b>	Solder plated, solderable per MIL-STD-750, Method 2026
<b>Polarity:</b>	Indicated by cathode band
<b>Mounting Position:</b>	Any
<b>Weight:</b>	0.007 ounce, 0. 21 gram

#### Maximum Ratings & Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	Value	Unit	Conditions	
<b>VRRM</b>	Repetitive Peak Reverse Voltage	45	V		
<b>VRMS</b>	Max. RMS Voltage	31.5	V		
<b>IF(AV)</b>	Max. Average Forward Rectified Current	10.0	A	TC=120° C, See Fig.1	
<b>IFSM</b>	Non-Repetitive Peak Forward Surge Current	150	A	8.3ms single half sine-wave superimposed on rated load (JEDEC method)	
<b>VF</b>	Max. Forward Voltage	0.55	V	IF=10.0A	Tj=25 °C
		0.53			Tj=125 °C
		0.50			Tj=150 °C
<b>IR</b>	Max. Instantaneous Reverse Current	0.05	mA	VR=40V	Tj=25 °C
	Typ. Instantaneous Reverse Current	3.0			Tj=125 °C
		10			Tj=150 °C
		25			Tj=175 °C
<b>Trr</b>	Typ. Reverse Recovery Time	35	ns	IF=0.5A, IR=1.0A, Irr=0.25A	
<b>CJ</b>	Typ. Junction Capacitance	460	pF	VR=4V, f=1MHz	

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Symbol	Description	Value	Unit	Conditions
$R_{\theta-JA}$	Typ. Thermal Resistance Junction to Ambient	50	$^{\circ}C/W$	Note 1
$R_{\theta-JC}$	Typ. Thermal Resistance Junction to Case	10	$^{\circ}C/W$	
$T_J$ , $T_{STG}$	Operating Junction and Storage Temperature Range	-55 to +175	$^{\circ}C$	

**Note:** 1. Thermal resistance from junction to case and mounted on P.C.B. with 5.0 mm x 7.0 mm (0.20" x 0.28") copper pad on FR-4 board.

### Typical Characteristics Curves

Fig.1- Typical Forward Current Derating Curve

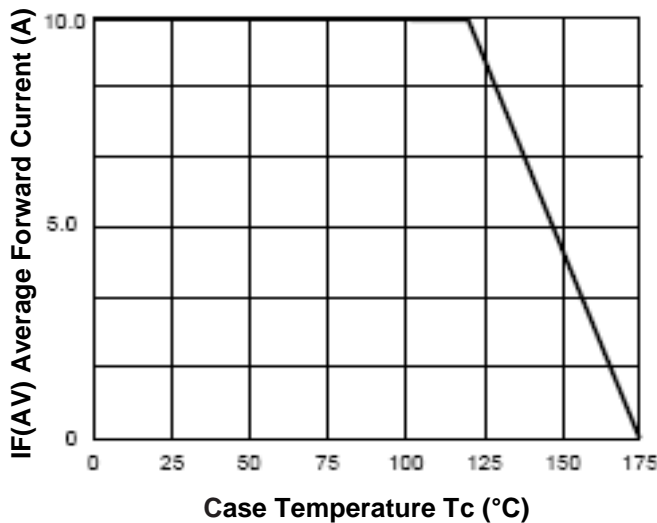


Fig.2- Max. Non-Repetitive Forward Surge Current

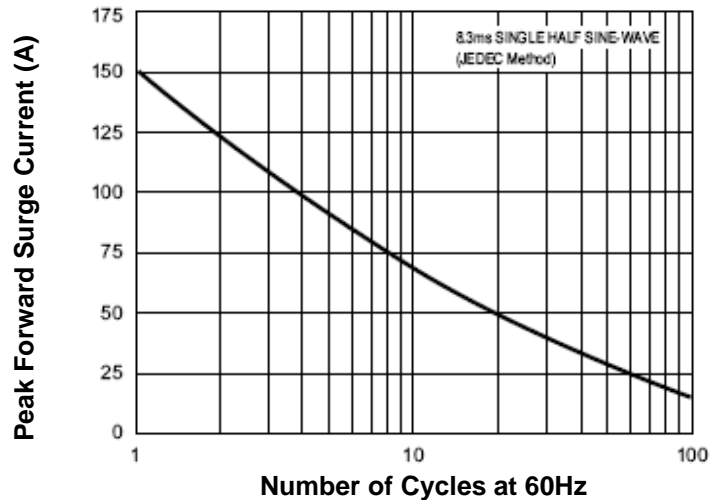


Fig.3- Typical Forward Characteristics

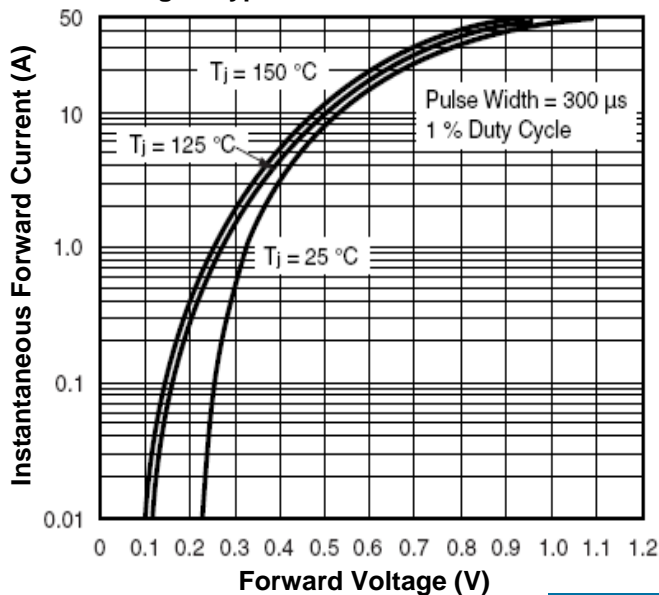
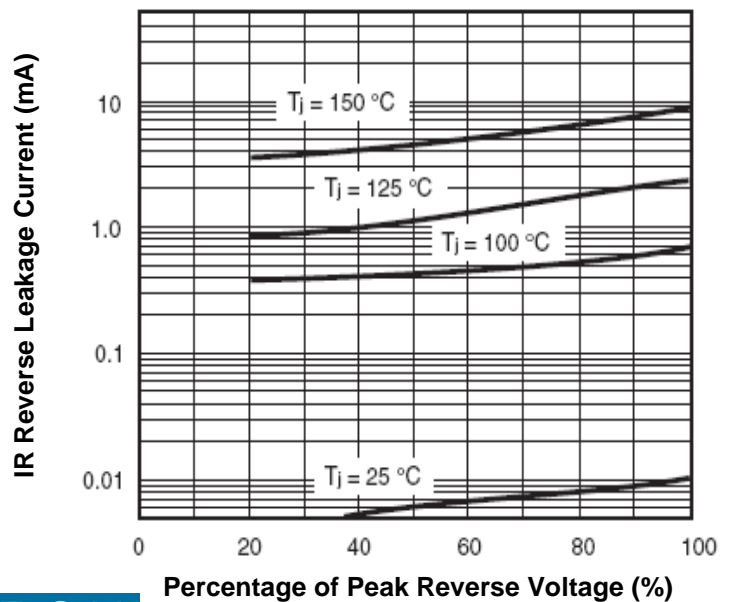
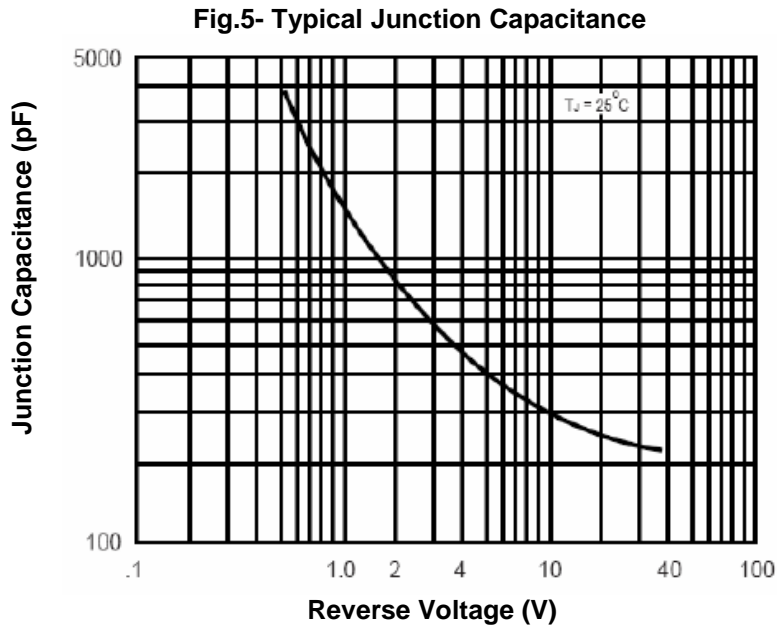
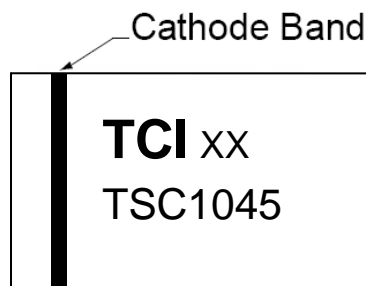


Fig.4- Typical Reverse Characteristics





### Marking Information:

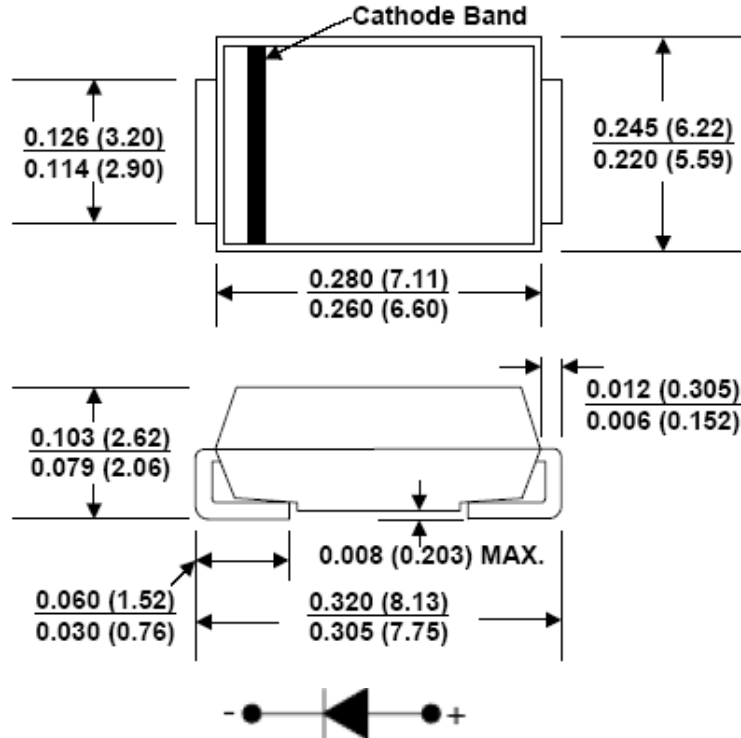


XX = Date Code

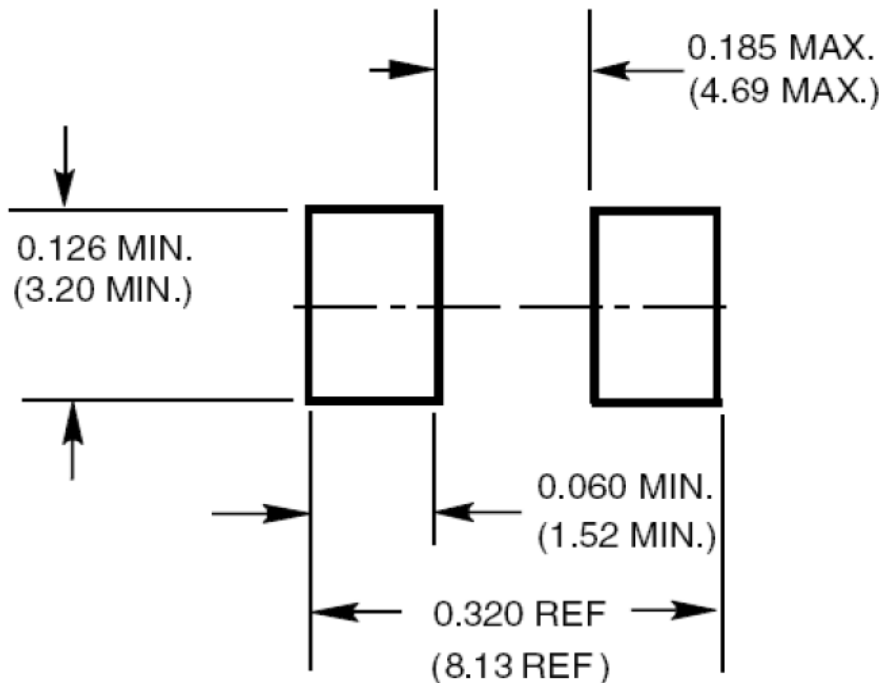
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Dimensions in inch (mm)



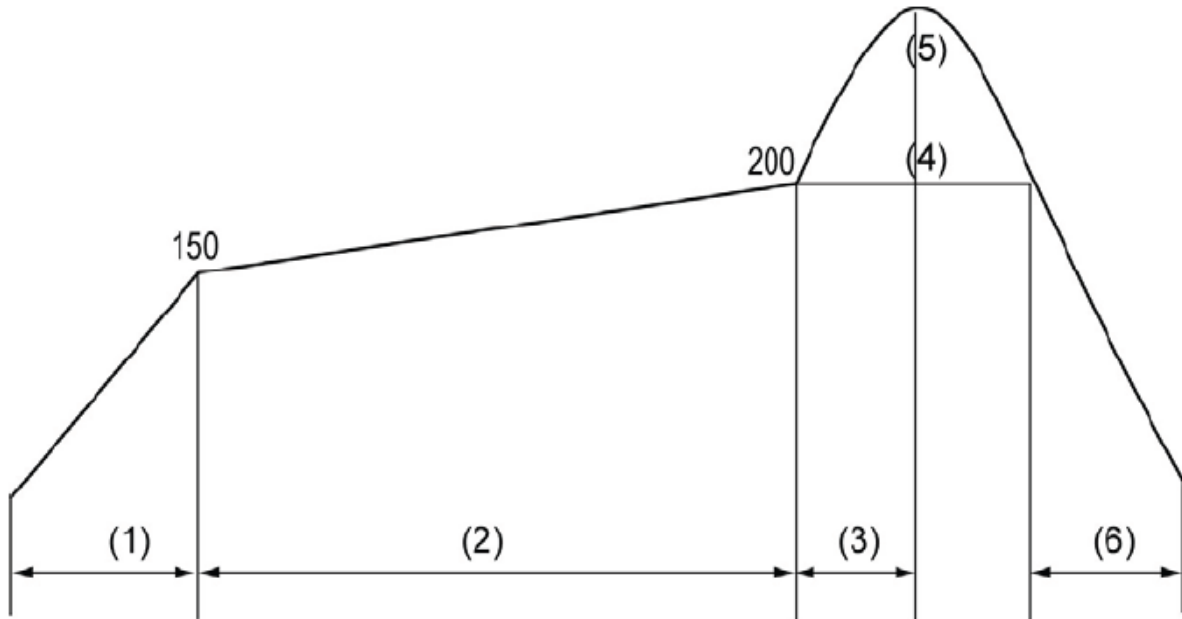
Soldering Pad in inch (mm)



SMC

**TAITRON**  
components incorporated

### Recommendations For SMD Soldering Conditions



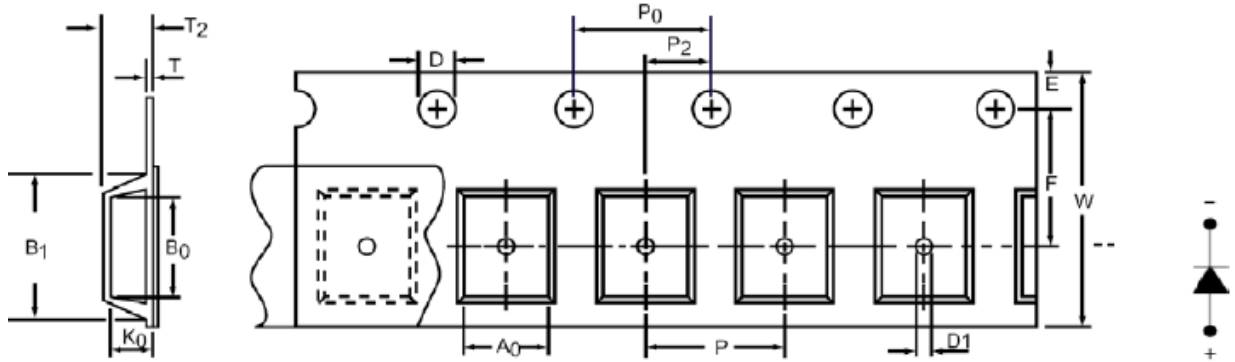
	(1)	(2)	(3)	(4)	(5)	(6)
	Ramp up	Pre-heating zone		Soldering zone	Peak	Ramp down
Temp.	Room temp to 150°C	150~200	200°C to peak	≥ 220°C	≤ 260°C	
Time	≤ 3°C/sec	Max. 120sec	1~4°C/sec	Max. 60sec	Max. 10 sec	1~4°C/sec

The duration and peak temperature as shown in the above table could conform to the concerned profile condition,  $T_p$ : 255C~260C and Duration Time: 30sec, as required in JEDEC J-STD-020 Rev. D. It would takes 25~30sec to raise the soldering zone temperature, kept at 260C ( 5. Peak ) for about 35~40sec before ramping down, from 220C to 260C.

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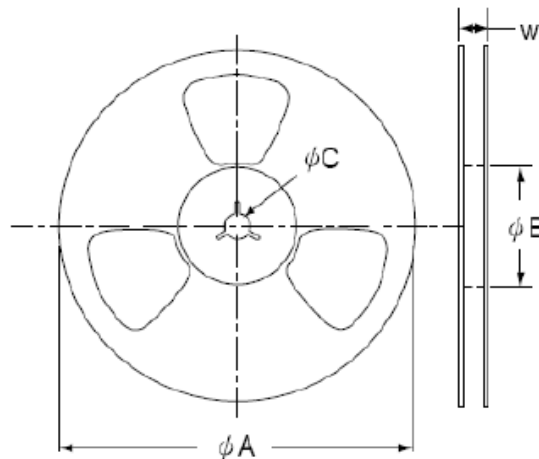
## Packing Information in mm



Product Type	A0	B0	K0	D	E	P0	T
		See Note			$1.55 \pm 0.05$	$1.75 \pm 0.10$	$4.0 \pm 0.1$
SMC	P2	B1	D1	F	P	W	T2
	$2.0 \pm 0.1$	12.1max.	1.5min.	$7.5 \pm 0.1$	$8.0 \pm 0.1$	$16.0 \pm 0.3$	$6.5 \pm 0.1$

**Note:** Symbol A0, B0, K0 are determined by the maximum dimensions of the component size.  
The clearance between the component and the cavity must be within 0.15 mm (0.066") min. to 0.90 mm (0.035") max. for 16 mm tape.

## Reel Dimensions in mm



Product Type	$\phi A$	$\phi B$	$\phi C$	W
SMC 7" REEL	$178 \pm 2.0$	50.0min.	$13.0 \pm 0.5$	22.4max.
SMC 13" REEL	$330 \pm 2.0$	50.0min.	$13.0 \pm 0.5$	22.4max.

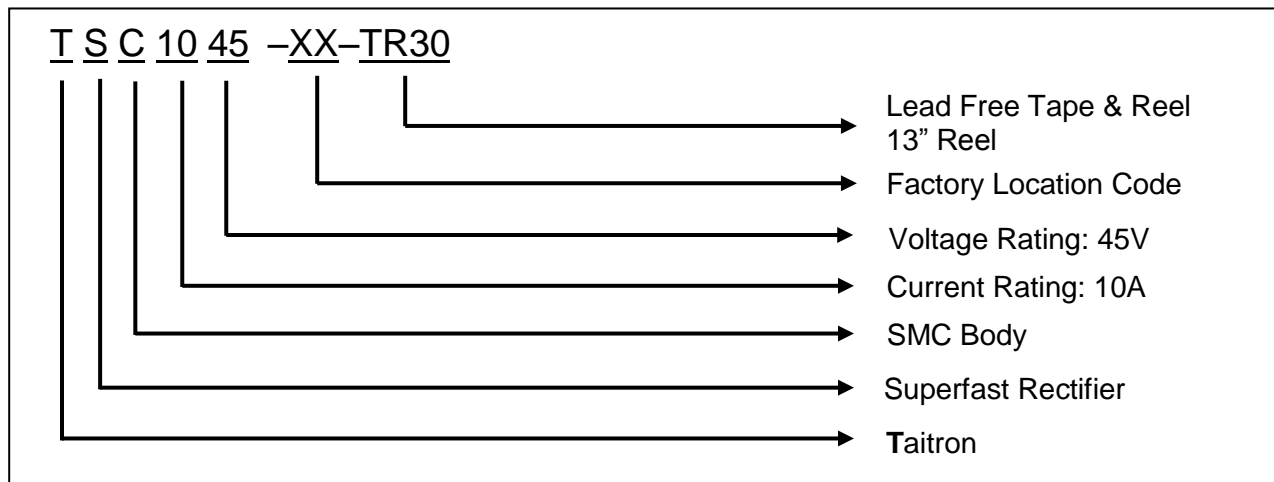
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## Packing Quantity Information:

Quantity	PCS per Inner Box	PCS per Carton
TR70 Tape & Reel	500/Reel	15000
TR30 Tape & Reel	3000/Reel	15000

## Ordering Information



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