

## Product Specification

Surge Type  
**MBRB2545CT**

Construction : Schottky Barrier Rectifier

Application : For General Purpose

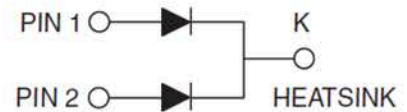
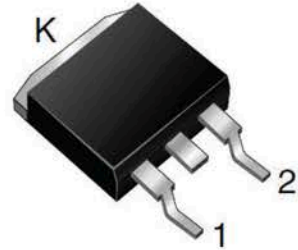
(Manufacturer) :

**Surge Components, Inc.**

Prepared on May. 10<sup>th</sup>, 2011

Prepared: R & D Department

Approva: QRA Department



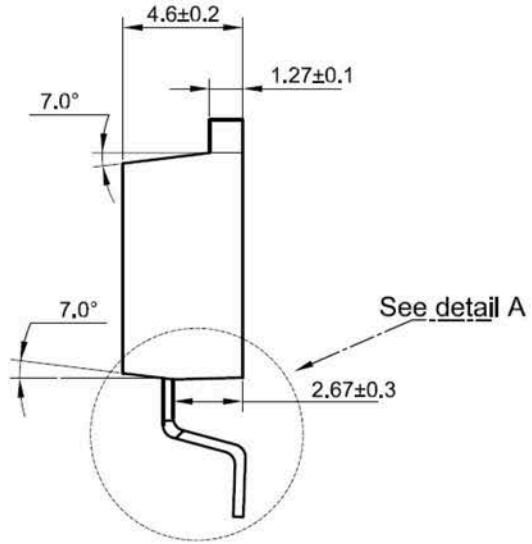
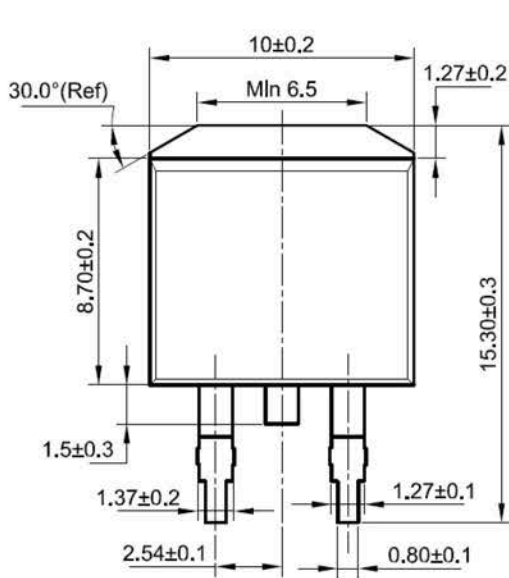
**SCHOTTKY BARRIER RECTIFIER**  
**25 AMPERES**  
**45 VOLTS**

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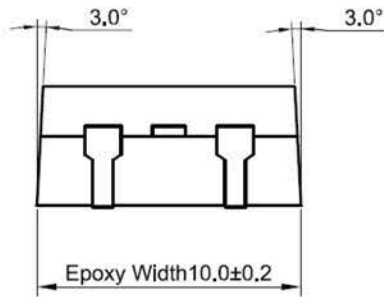
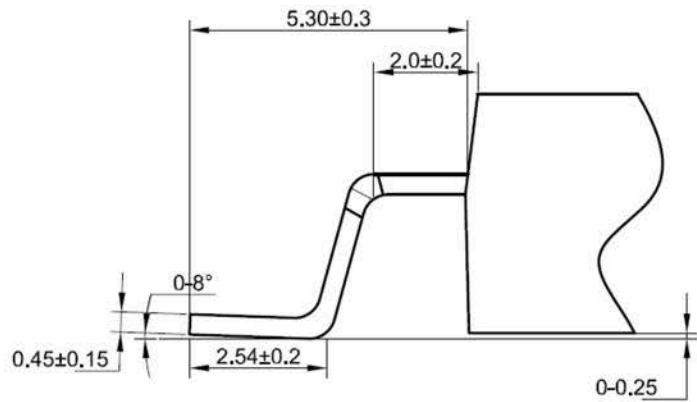
1. Package Outline
2. Marking
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4. Maximum Ratings and Electrical Characteristics
5. Rating and characteristic Curves
6. Packing Specification PACKAGING SPECIFICATION
7. Description of Box Label

### 1. Package Outline (TO263)

UNIT:mm

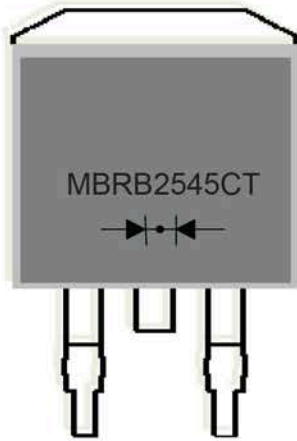


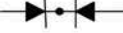
#### Detail A



Lead Frame Material : Copper      Plating: Pure Tin Plating

## 2. MARKING



1. Part Name : MBRB2545CT
2. Logo Mark:
3. Polarity: 

### 3.Features& Mechanical Characteristics

#### Features

- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- For surface mounted application
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Guarding for over voltage protection
- For use in low voltage, high frequency inverters,
- Free wheeling, and polarity protection applications

#### Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 1.4grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max.for10 sec
- Shipped 50 units per plastic tube or tape reel packing 800/reel

### 4.Maximum Ratings and Electrical Characteristics

MAXIMUM RATINGS and ELECTRICAL CHARACTERISTICS(TC=25°C unless otherwise moted)					
PARAMETER	TEST CONDITIONS		SYMBOL	MBRB2545CT	UNIT
Maximum repetitive peak reverse voltage			VRRM	45	V
Working peak reverse voltage			VRWM	45	V
Maximum DC blocking voltage			VDC	45	V
Maximum average forward rectified current at Tc=105°C total device per diode			IF(AV)	25 12.5	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			IFSM	200	A
Peak repetitive reverse current per leg at tp=2.0us , 1KHz			IRRM	1	A
Voltage rate of change (rated VR)			DV/dt	10000	V/us
Operating junction temperature range			TJ	-55 to +150	°C
Storage temperature range			TSTG	-55 to +150	°C
Maximum instantaneous forward voltage per leg	IF=15A IF=15A	TC=25°C TC=125°C	VF	0.71 0.62	V
Maximum reverse current per leg at working peak Reverse voltage			TJ=25°C TJ=100°C	IR 15	uA mA

#### Thermal Characteristics Ta=25°C unless otherwise noted

Symbol	Parameter	Max	Unit
RθJC	Thermal Resistance, Junction to Case per Leg	2.0	°C /W

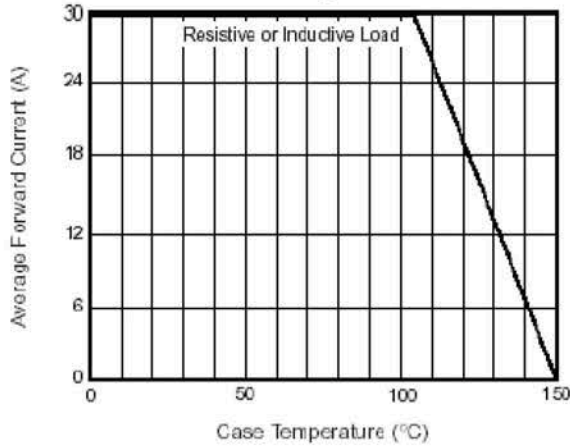
#### Note:

1. Pulse test:300us pulse width, duty cycle=2%

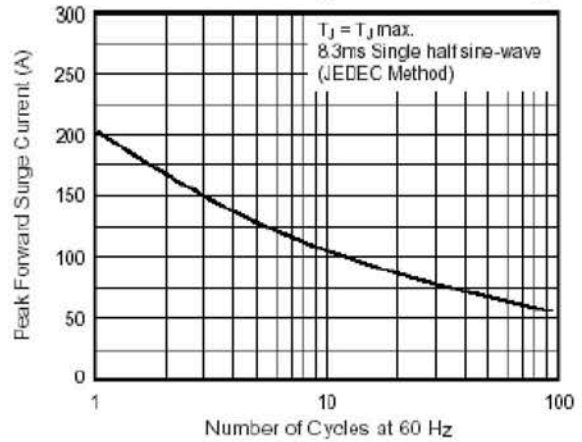
### 5. Rating and Characteristic Curves

(Tc=25°C Unless otherwise noted)

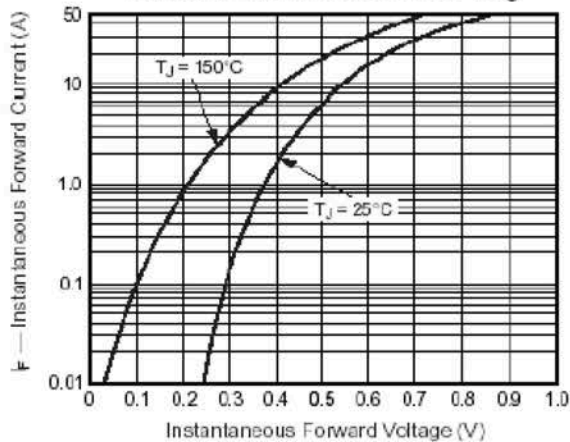
**Fig. 1 – Forward Current Derating Curve**



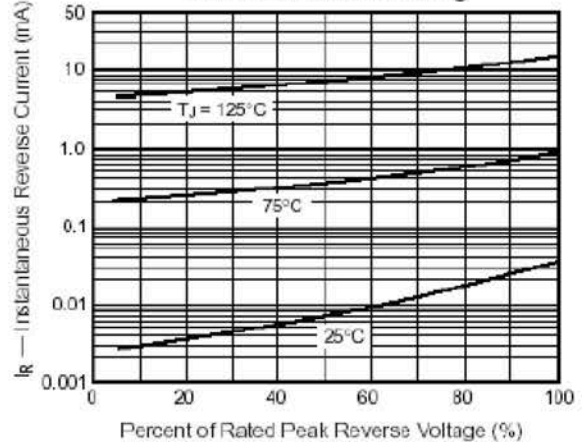
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



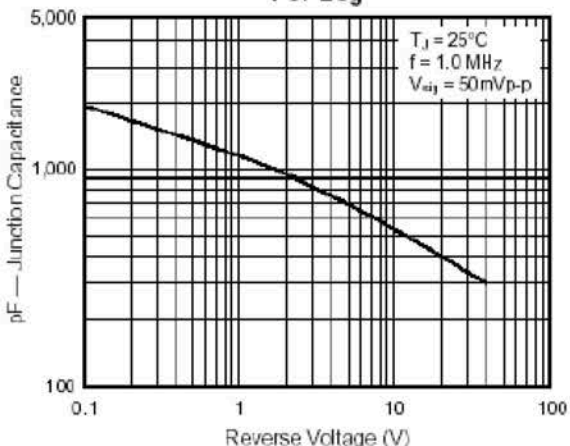
**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



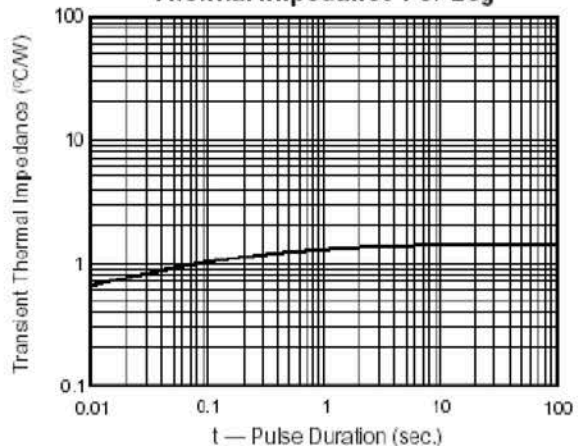
**Fig. 4 – Typical Reverse Characteristics Per Leg**



**Fig. 5 – Typical Junction Capacitance Per Leg**



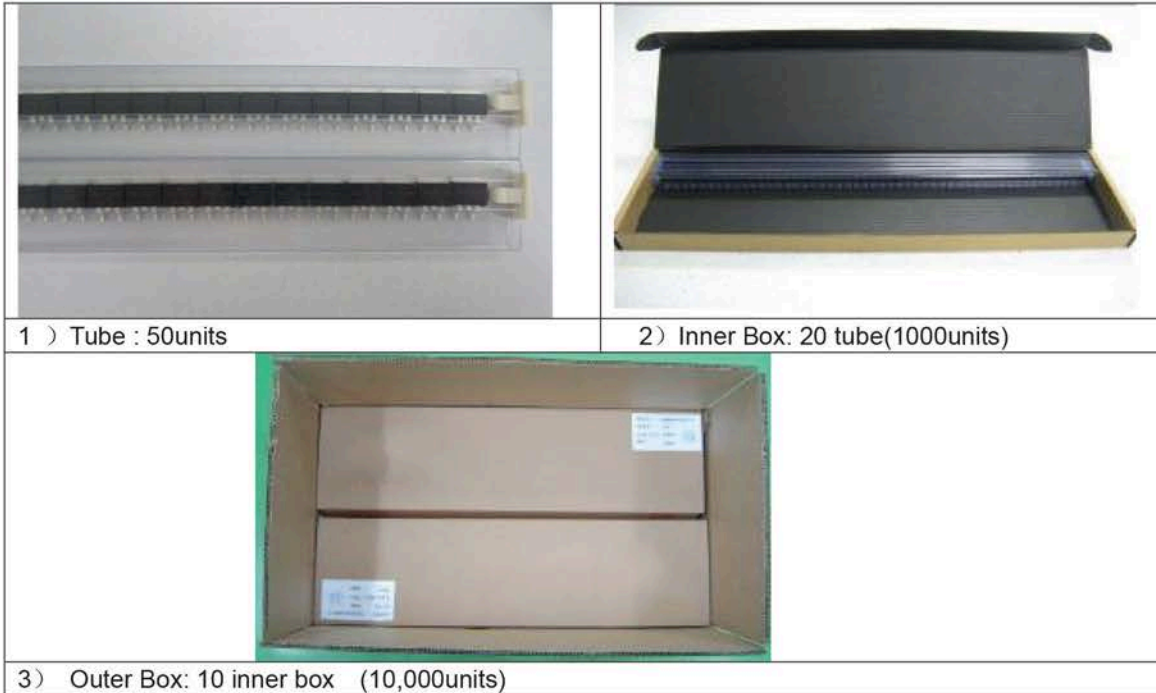
**Fig. 6 – Typical Transient Thermal Impedance Per Leg**





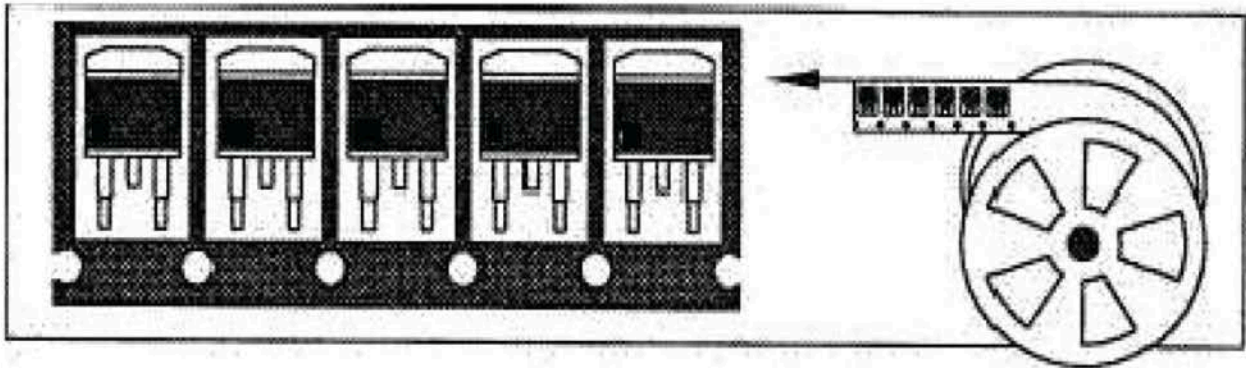
## 6. Packing Specification

### 6.1 Tube packing

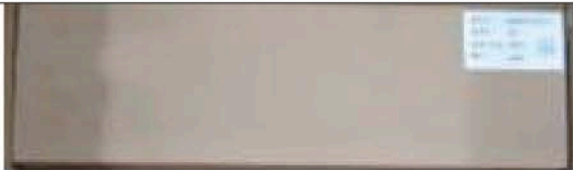
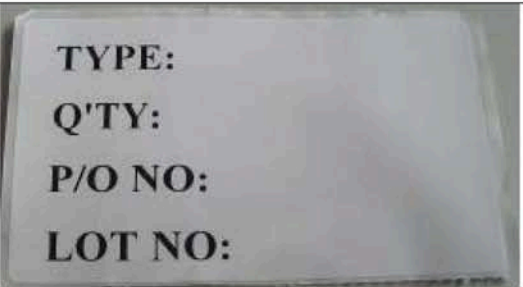

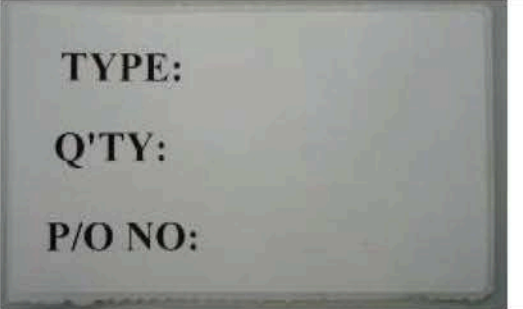


### 6.2 Tape&reel packing

Packing size:800 /reel( 13' reel)



**7. DESCRIPTION of BOX LABEL**

	 <p><b>TYPE:</b> <b>Q'TY:</b> <b>P/O NO:</b> <b>LOT NO:</b></p>
<p>1) Inner Box Label</p>	<p>2) Inner Box Label</p>
	 <p><b>TYPE:</b> <b>Q'TY:</b> <b>P/O NO:</b></p>
<p>3) Outer Box Label</p>	<p>4) Outer Box Label</p>