



Micro Commercial Components

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**TSMBJ0305C-072**

**Transient Voltage  
 Protection Device  
 65 Volts**

**Features**

- Oxide-Glass passivated Junction
- Bi-Directional protection in a single device
- Surge capabilities up to 50A@10/1000us or 150A@8/20us
- High Off-State impedance and Low On-State voltage
- Plastic material has UL flammability classification 94V-0

**Mechanical Data**

- Case : Molded plastic
- Polarity : None cathode band denotes
- Approx Weight : 0.093grams

**Maximum Ratings**

Characteristic	Symbol	Value	Unit
Non-repetitive peak impulse current	$I_{PP}$	50A	10/1000us
Non-repetitive peak On-state current	$I_{TSM}$	20A	8.3ms, one-half cycle
Operating temperature range	$T_{OP}$	-40~125°C	
Junction and storage temperature range	$T_J, T_{STG}$	-55~150°C	

**Thermal Resistance**

Characteristic	Symbol	Value	Unit
Thermal Resistance junction to lead	$R_{\theta JL}$	30°C/W	
Thermal Resistance junction to ambient	$R_{\theta JA}$	120°C/W	On recommended pad layout
Typical positive temperature coefficient for breakdown voltage	$\Delta V_{BR}/\Delta T_J$	0.1%/°C	

**DO-214AA  
 (SMBJ)**

**DIMENSIONS**

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.078	.096	2.00	2.44	
B	.077	.083	1.96	2.10	
C	.002	.008	.05	.20	
D	—	.02	—	.51	
E	.030	.060	.76	1.52	
F	.065	.091	1.65	2.32	
G	.205	.220	5.21	5.59	
H	.160	.180	4.06	4.57	
J	.130	.155	3.30	3.94	

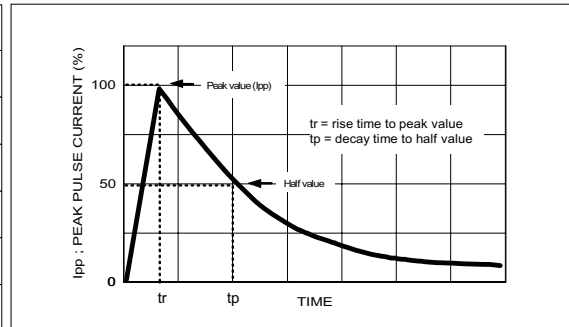
**SUGGESTED SOLDER PAD LAYOUT**

**ELECTRICAL CHARACTERISTIC @25°** : Unless otherwise specified

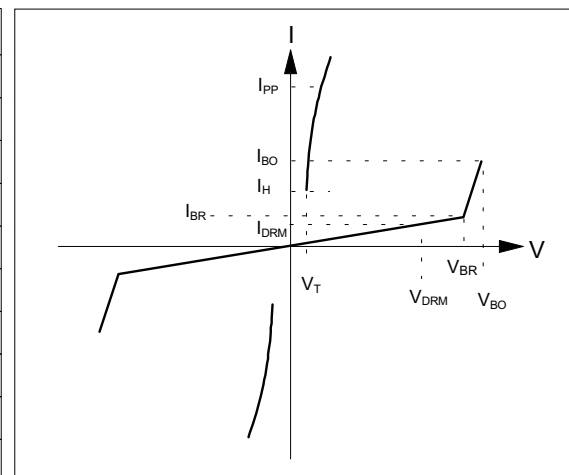
Parameter	Rated Repetitive Off-state Voltage	Off-state Leakage Current@V <sub>DRM</sub>	Breakover Voltage	On-State Voltage @I <sub>T</sub> =1.0A	Breakover Current	Holding Current	Off-State Capacitance
Symbol	V <sub>DRM</sub>	I <sub>DRM</sub>	V <sub>BO</sub>	V <sub>T</sub>	I <sub>BO+</sub>	I <sub>H</sub>	C <sub>J</sub>
Units	Volts	uA	Volts	Volts	mA	mA	pF
Limit	Max	Max	Max	Max	Max	Min	Typ.
TSMBJ0305C-072	65	5	88	5	800	150	100

**MAXIMUM RATED SURGE WAVEFORM**

Waveform	Standard	I <sub>pp</sub> (A)
2/10 us	GR-1089-CORE	200
8/20 us	IEC 61000-4-5	150
10/160 us	FCC Part 68	100
10/700 us	ITU-T K20/21	60
10/560 us	FCC Part 68	60
10/1000 us	GR-1089-CORE	50

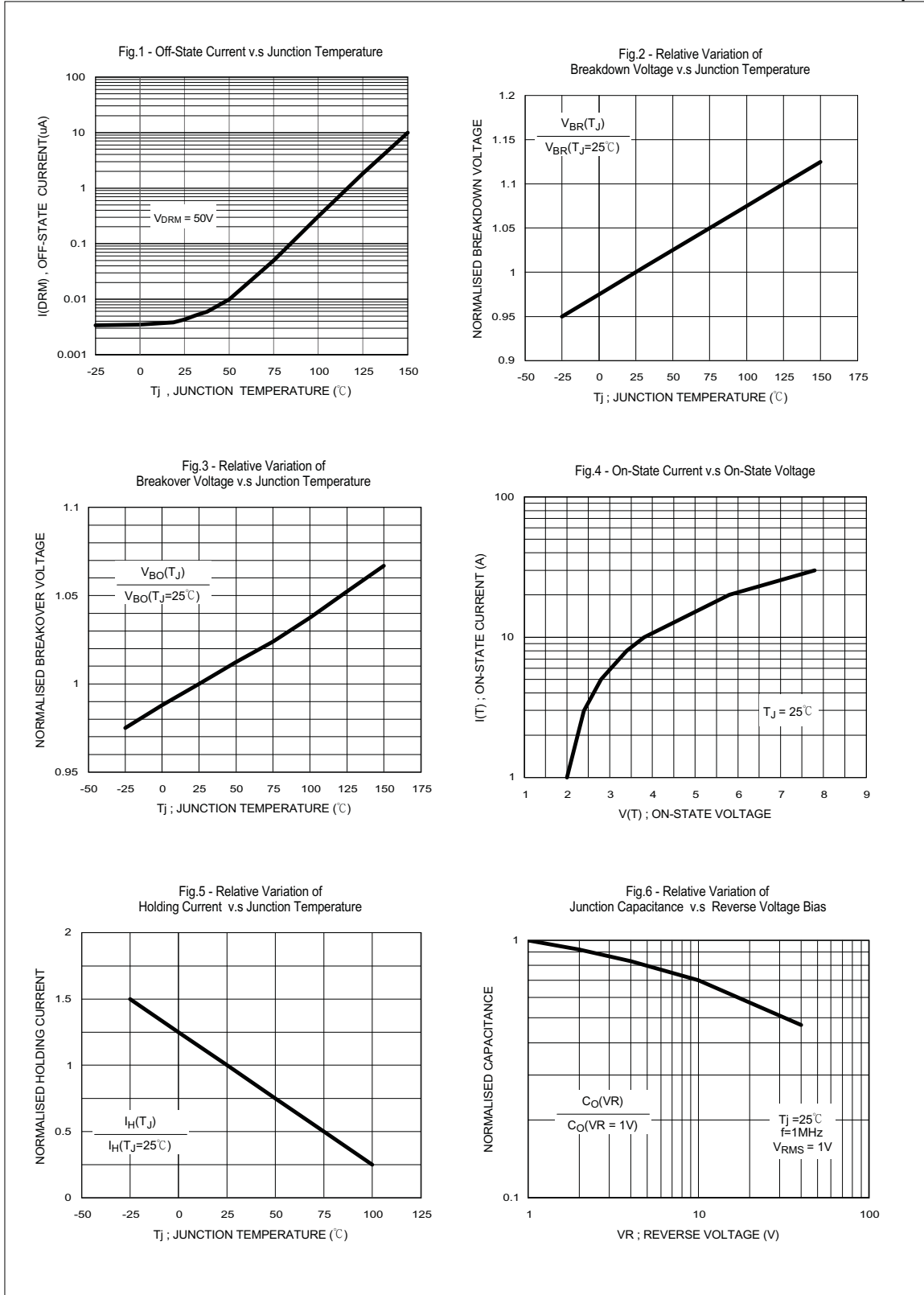


Symbol	Parameter	
V <sub>DRM</sub>	Stand-off voltage	
I <sub>DRM</sub>	Leakage current at stand-off voltage	
V <sub>BR</sub>	Breakdown voltage	
I <sub>BR</sub>	Breakdown current	
V <sub>BO</sub>	Breakover voltage	
I <sub>BO</sub>	Breakover current	
I <sub>H</sub>	Holding current	NOTE: 1
V <sub>T</sub>	On state voltage	
I <sub>PP</sub>	Peak pulse current	
C <sub>O</sub>	Off-state capacitance	NOTE: 2

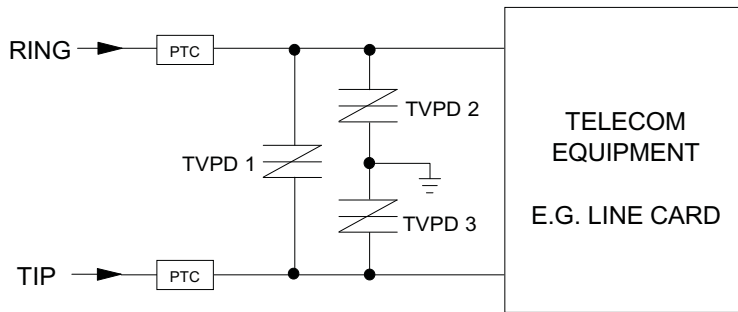
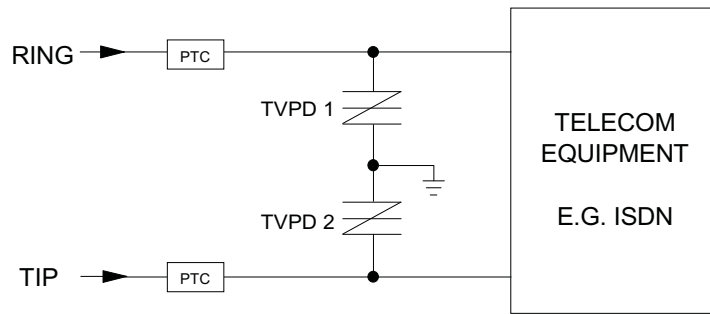
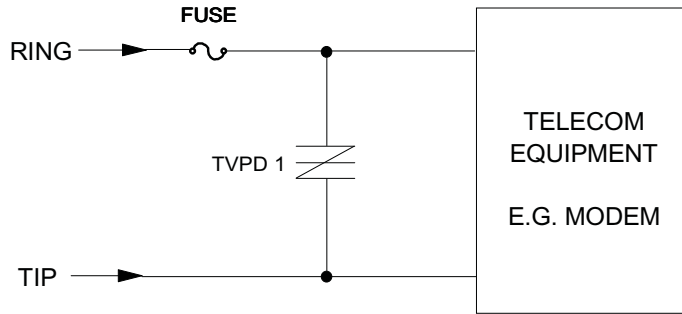


NOTE :

- I<sub>H</sub> > (V<sub>L</sub> / R<sub>L</sub>) If this criterion is not obeyed, the TSPD triggers but does not return correctly to high-resistance state. The surge recovery time. It does not exceed 30ms.
- Off-state capacitance measured at f=1.0MHz, 1.0Vrms signal, VR=2Vdc bias.



TYPICAL APPLICATION CIRCUITS



The PTC (Positive Temperature Coefficient) is an overcurrent protection device.



## MARKING CODE

