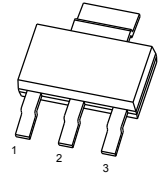


## SOT-223 Plastic-Encapsulate MOSFETS

### CJT04N15 N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
150V	160mΩ@10V	4A

SOT-223



1. GATE
2. DRAIN
3. SOURCE

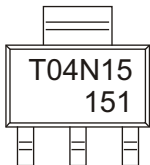
#### GENERAL DESCRIPTION

This CJT04N15 use advanced trench technology and design to provide excellent  $R_{DS(ON)}$  with low gate charge. It can be used in a wide variety of applications.

#### FEATURE

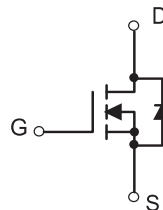
- High density cell design for ultra low  $R_{DS(ON)}$
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

#### MARKING



T04N15= Device code  
151=Code

#### EQUIVALENT CIRCUIT



#### Maximum ratings ( $T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	150	V
Gate-Source Voltage	$V_{GS}$	±20	
Continuous Drain Current	$I_D$	4	A
Pulsed Drain Current(note1)	$I_{DM}$	16	
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	125	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	-55 ~+150	
Maximum lead temperure for soldering purposes , 1/8"from case for 5 seconds	$T_L$	260	

## MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25^\circ\text{C}$  unless otherwise specified

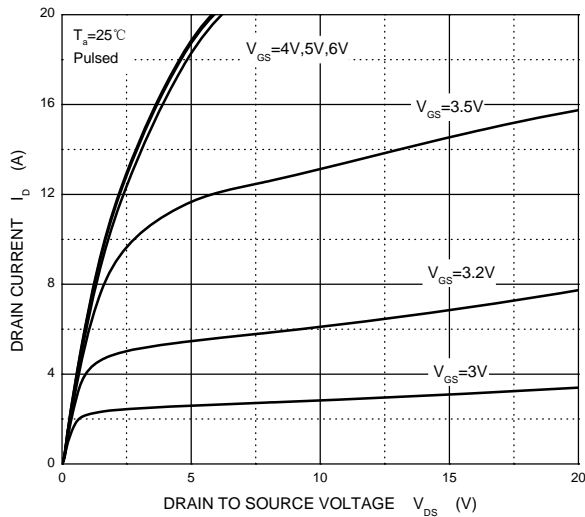
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Off characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	150			V
Drain-source diode forward voltage(note2)	$V_{SD}$	$V_{GS} = 0V, I_S = 2.0A$			1.2	
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 150V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current (note2)	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			$\pm 100$	nA
<b>On characteristics (note2)</b>						
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.5	2.0	2.5	V
Static drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 4.0A$		130	160	m $\Omega$
Forward transconductance	$g_{fs}$	$V_{DS} = 15V, I_D = 4A$	5			S
<b>Dynamic characteristics (note 3)</b>						
Input capacitance	$C_{iss}$	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		900		pF
Output capacitance	$C_{oss}$			115		
Reverse transfer capacitance	$C_{rss}$			70		
<b>Switching characteristics (note 3)</b>						
Total gate charge	$Q_g$	$V_{DS} = 75V, V_{GS} = 10V, I_D = 1.5A$		19		nC
Gate-source charge	$Q_{gs}$			5.5		
Gate-drain charge	$Q_{gd}$			7		
Turn-on delay time (note3)	$t_{d(on)}$	$V_{DS} = 75V, V_{GS} = 10V,$ $R_G = 6\Omega, I_D = 1.0A, R_L = 75\Omega$		8		ns
Turn-on rise time (note3)	$t_r$			10		
Turn-off delay time (note3)	$t_{d(off)}$			20		
Turn-off fall time (note3)	$t_f$			15		

### Notes :

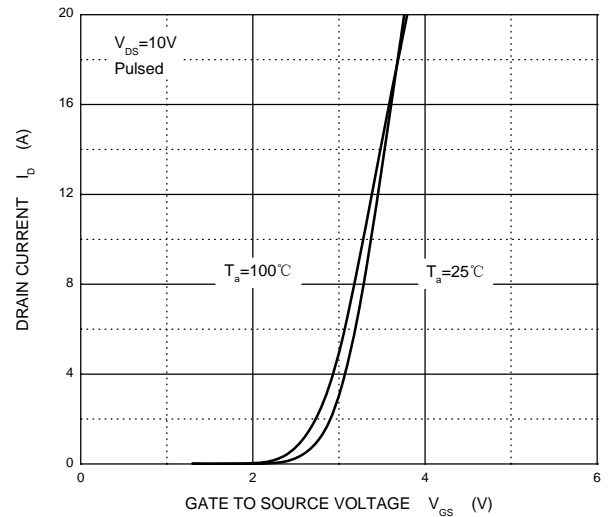
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Pulse Test : Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$ .
3. These parameters have no way to verify.

# Typical Characteristics

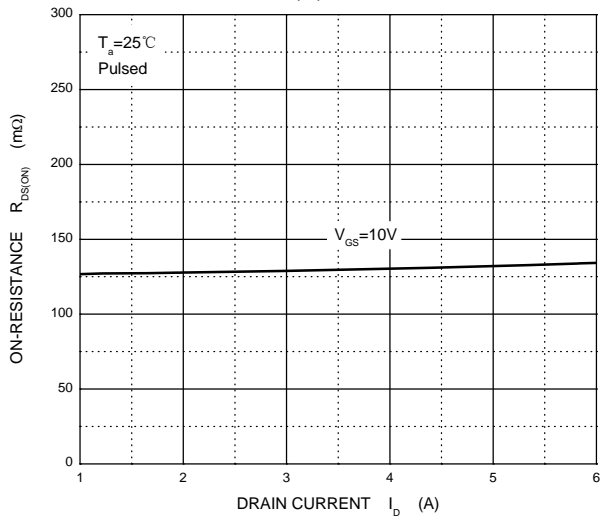
Output Characteristics



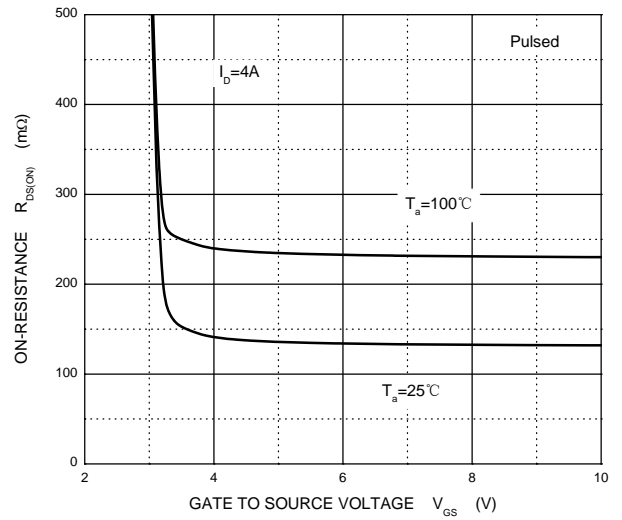
Transfer Characteristics



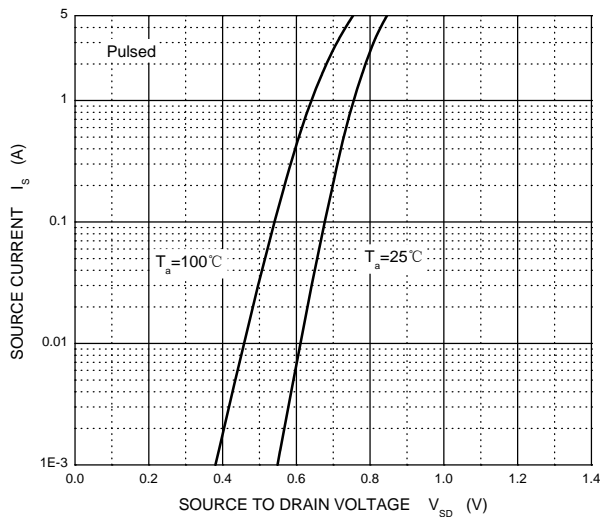
$R_{DS(ON)}$  —  $I_D$



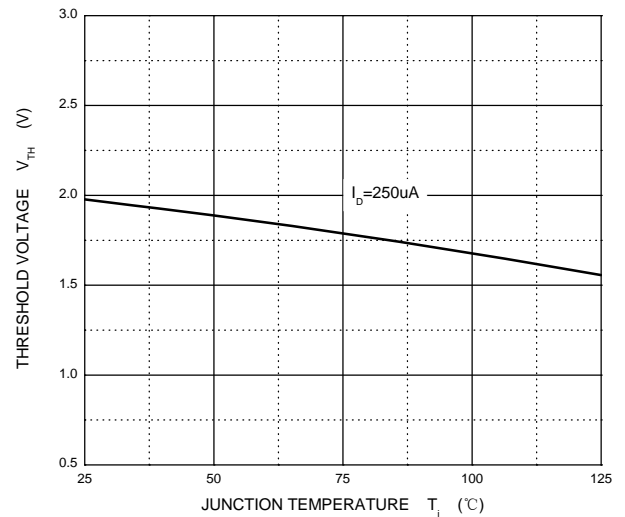
$R_{DS(ON)}$  —  $V_{GS}$



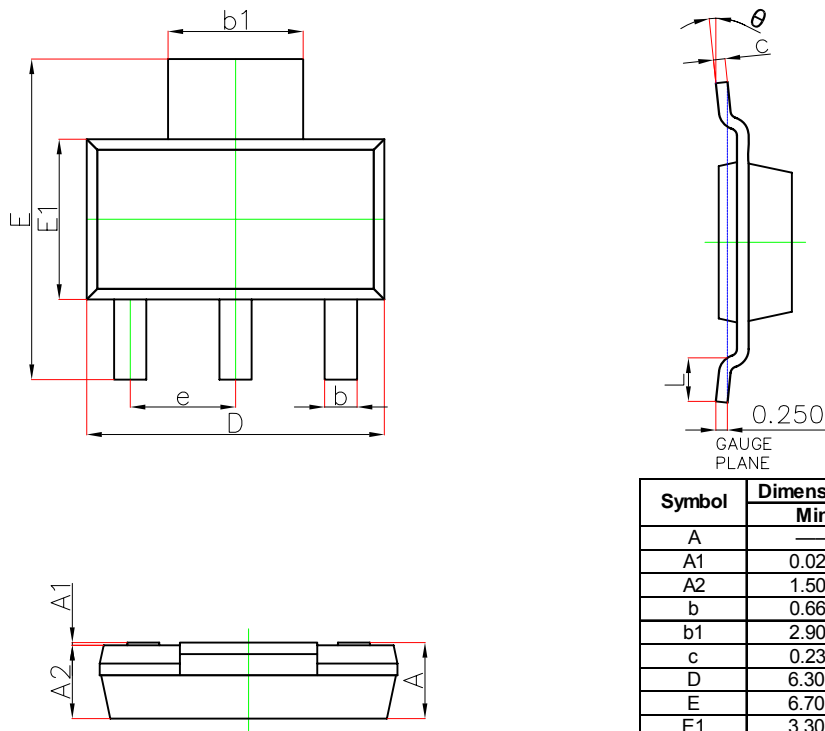
$I_S$  —  $V_{SD}$



Threshold Voltage

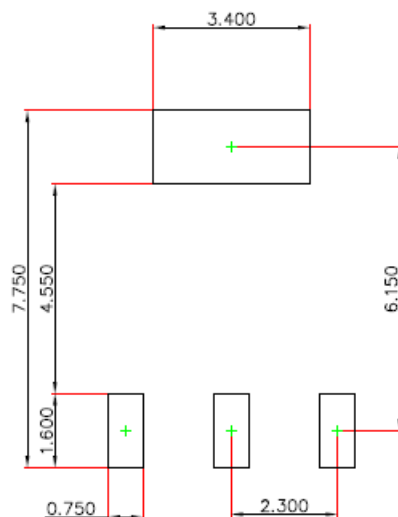


## SOT-223 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	—	1.800	—	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
$b_1$	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
$E_1$	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	—	0.030	—
$\theta$	0°	10°	0°	10°

## SOT-223 Suggested Pad Layout



### Note:

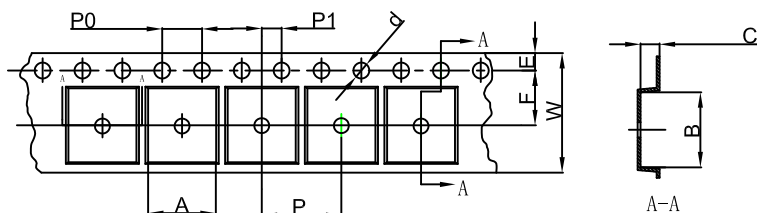
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.050$  mm.
3. The pad layout is for reference purposes only.

### NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

# SOT-223 Tape and Reel

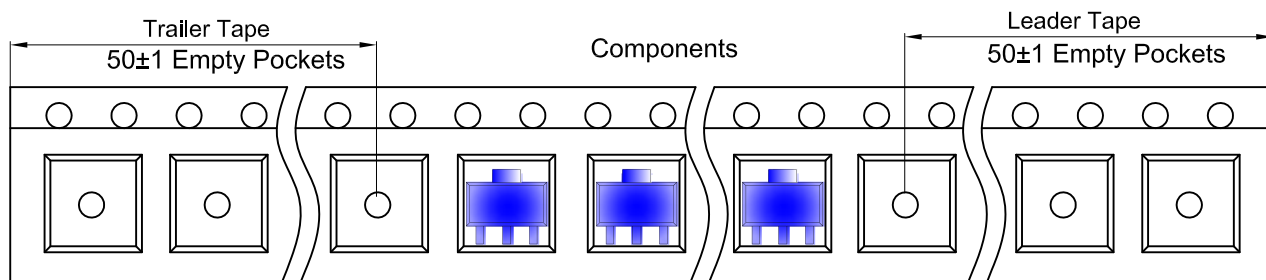
## SOT-223 Embossed Carrier Tape



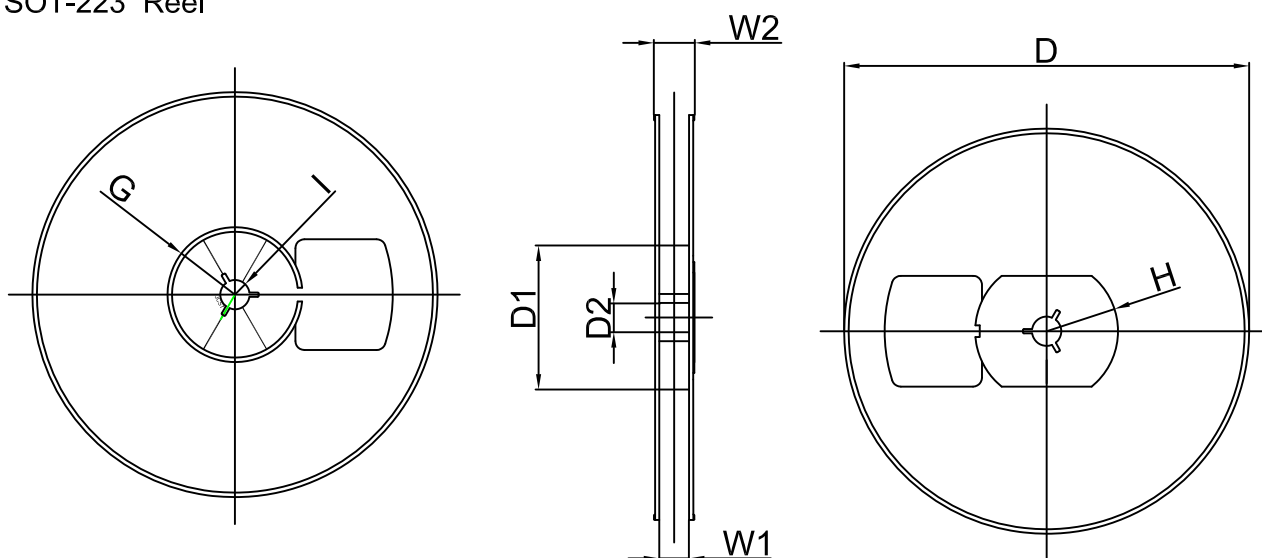
**Packaging Description:**  
 SOT-223 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 1,000 units per 7" or 18.0cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-223	6.765	7.335	1.88	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

## SOT-223 Tape Leader and Trailer



## SOT-223 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	13.00	R30.00	R32.00	R6.50	13.20	16.50

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
1000 pcs	7 inch	10,000 pcs	203×203×195	40,000 pcs	438×438×220	