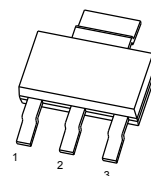


**SOT-223 Plastic-Encapsulate MOSFETS****CJT03P10**

P-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-100V	190mΩ@-10V	-3A
	210mΩ@-4.5V	

SOT-223

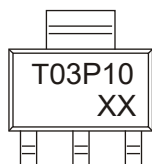
1. GATE
2. DRAIN
3. SOURCE

GENERAL DESCRIPTION

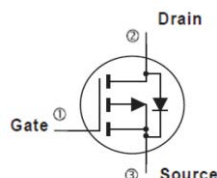
This CJT03P10 use advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. It can be used in a wide variety of applications.

FEATURE

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

MARKING

T03P10= Device code
XX= C o d e

EQUIVALENT CIRCUIT**Maximum ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)**

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	-3	A
Pulsed Drain Current(note1)	I_{DM}	-10	
Power Dissipation(note3)	P_D	3.1	W
Thermal Resistance from Junction to Ambient(note3)	$R_{\theta JA}$	40	$^\circ\text{C}/\text{W}$
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	$^\circ\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS

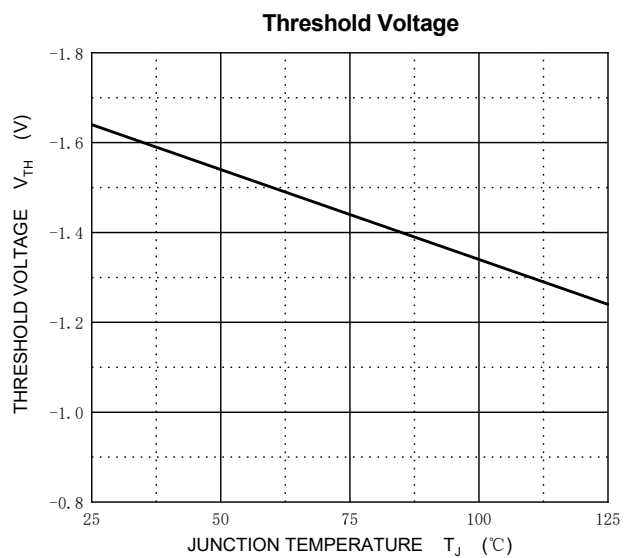
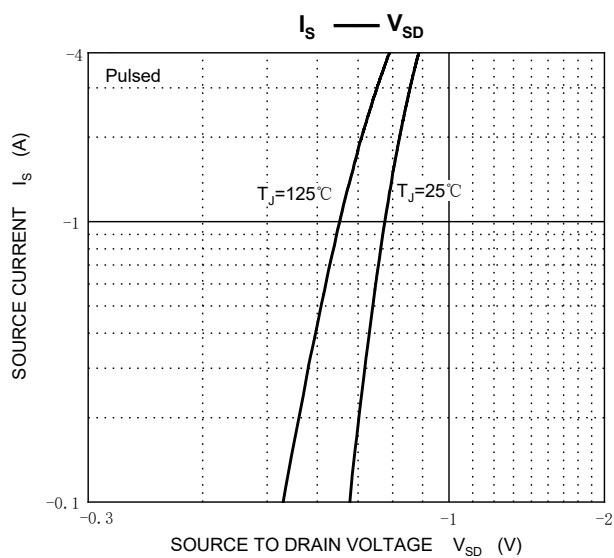
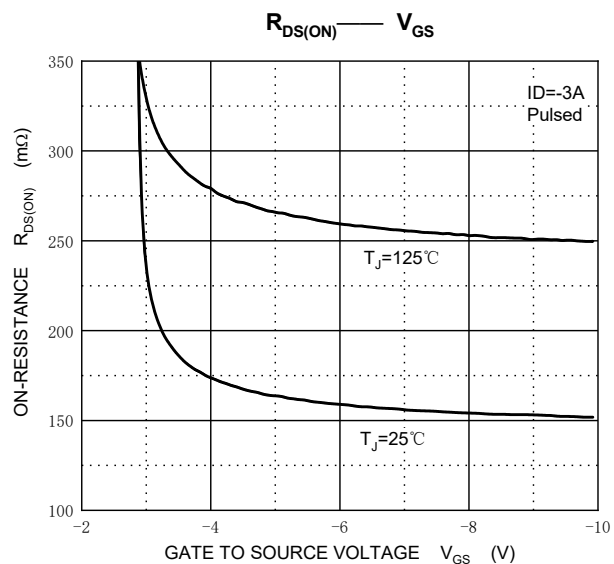
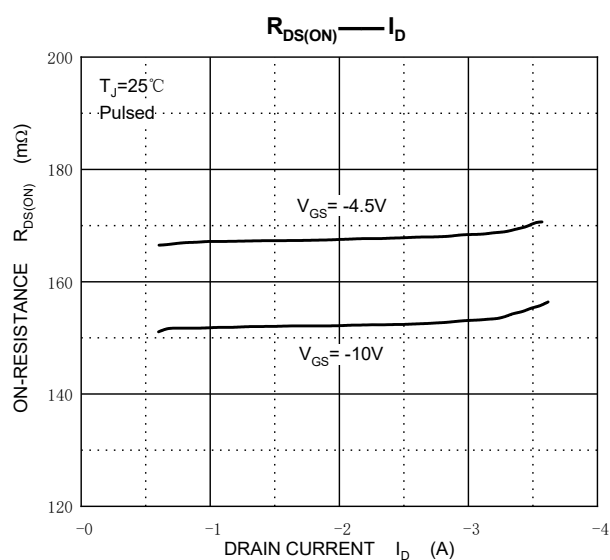
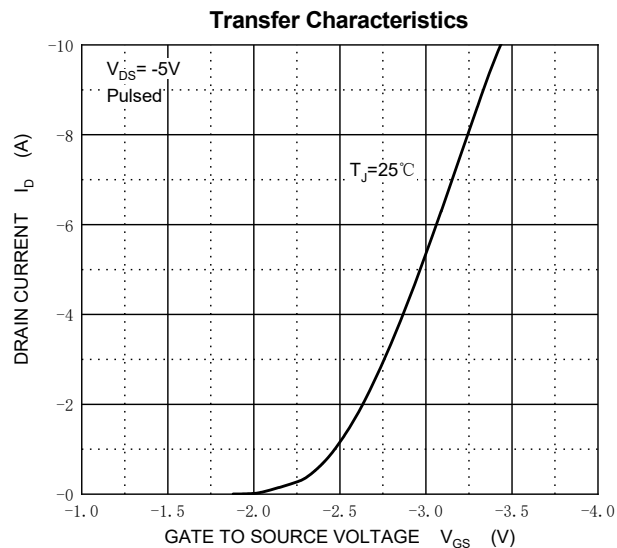
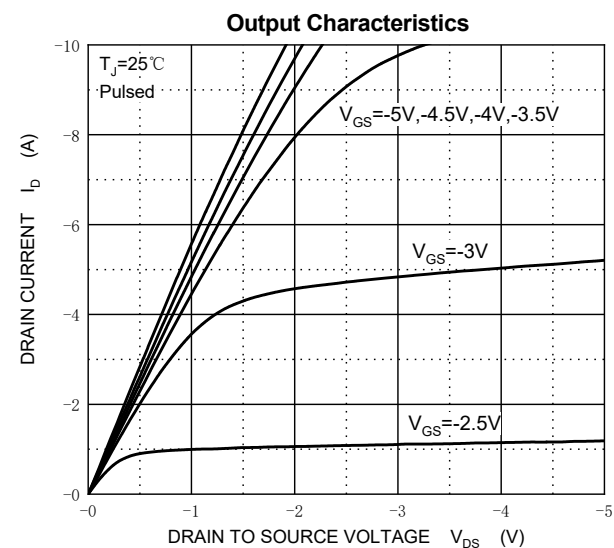
$T_a=25^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-100			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -100V, V_{GS} = 0V, T_J = 25^{\circ}C$			-1	μA
		$V_{DS} = -100V, V_{GS} = 0V, T_J = 125^{\circ}C$			-1	mA
Gate-source leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
On characteristics						
Drain-source on-resistance (note 3)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -3A$		153	190	m Ω
		$V_{GS} = -4.5V, I_D = -1A$		166	210	m Ω
Forward transconductance	g_{FS}	$V_{DS} = -5V, I_D = -3A$		7		S
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.75	-3	V
Dynamic Characteristics (note 4)						
Input capacitance	C_{iss}	$V_{DS} = -25V, V_{GS} = 0V, f = 1MHz$		1419	2500	pF
Output capacitance	C_{oss}			89	170	pF
Reverse transfer capacitance	C_{rss}			45	90	pF
Gate resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		16		pF
Switching Characteristics (note 4)						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -50V,$ $I_D = -2.6A, R_{GEN} = 25\Omega$ (note 1,2)		18	36	ns
Turn-on rise time	t_r			8	16	ns
Turn-off delay time	$t_{d(off)}$			100	200	ns
Turn-off fall time	t_f			30	60	ns
Total Gate Charge	Q_g	$V_{DS} = -25V, I_D = -2.6A,$ $V_{GS} = 4.5V$ (note 1,2)		20	40	nC
Gate-Source Charge	Q_{gs}			3.5	7	nC
Gate-Drain Charge	Q_{gd}			4.6	9	nC
Drain-source diode characteristics and maximum ratings						
Diode forward voltage (note 3)	V_{SD}	$I_S = -1A, V_{GS} = 0V$		-0.75	-1.2	V
Continuous drain-source diode forward current	I_S				-3	A
Pulsed drain-source diode forward current (note 1)	I_{SM}				-10	A

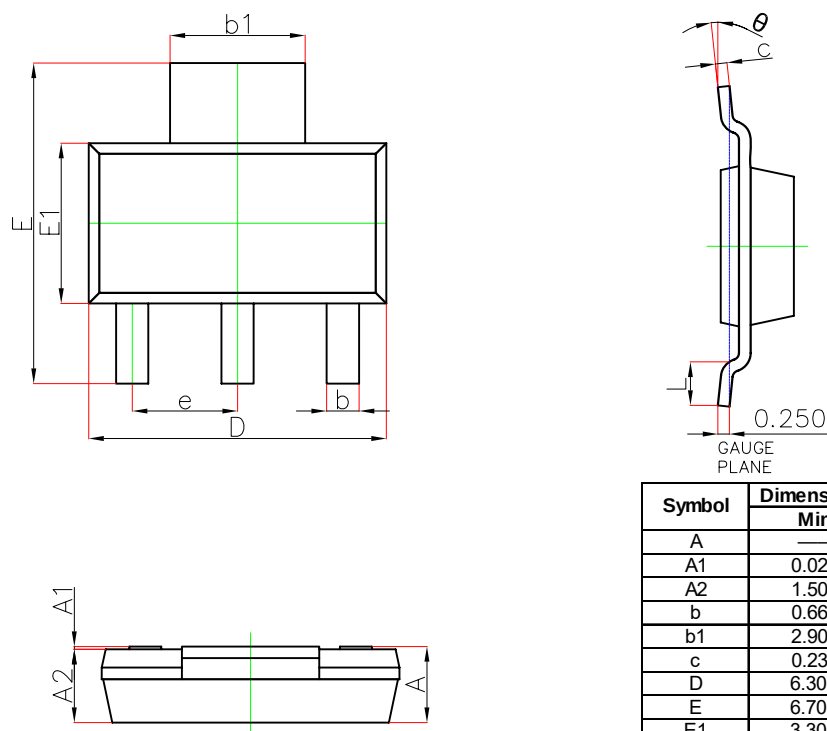
Note :

1. Pulse width < 300 μ s, Duty cycle < 2%.
2. Essentially independent of operating temperature typical characteristics.
3. $R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. Mounted on a 1 inch² with 2oz. square pad of copper.
4. Guaranteed by design, not subject to production testing.

Typical Characteristics

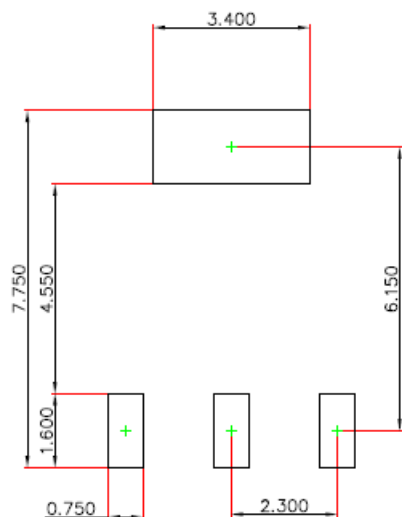


SOT-223 Package Outline Dimensions



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
b1	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
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	—	0.030	—
θ	0°	10°	0°	10°

SOT-223 Suggested Pad Layout



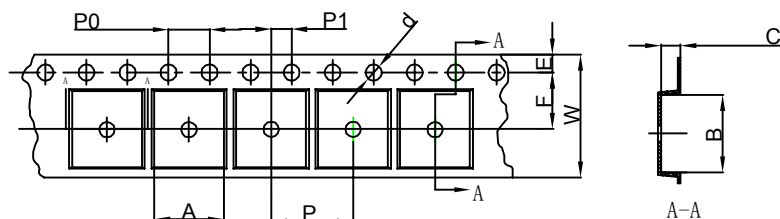
- Note:**
- 1. Controlling dimension: in millimeters.
 - 2. General tolerance: $\pm 0.050\text{mm}$.
 - 3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ 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

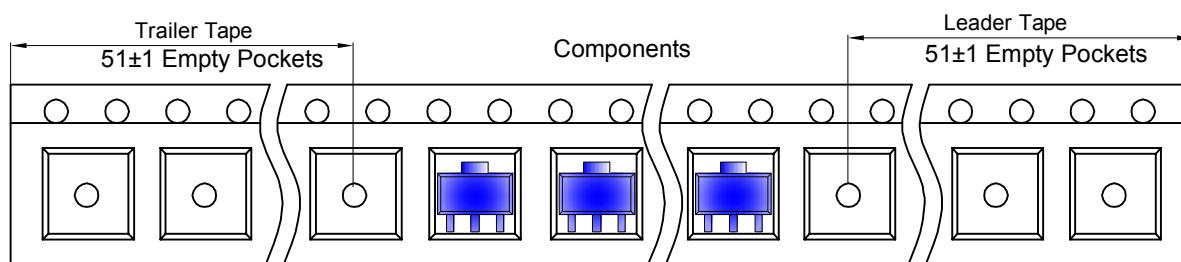


Packaging Description:

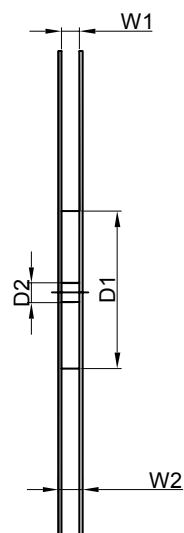
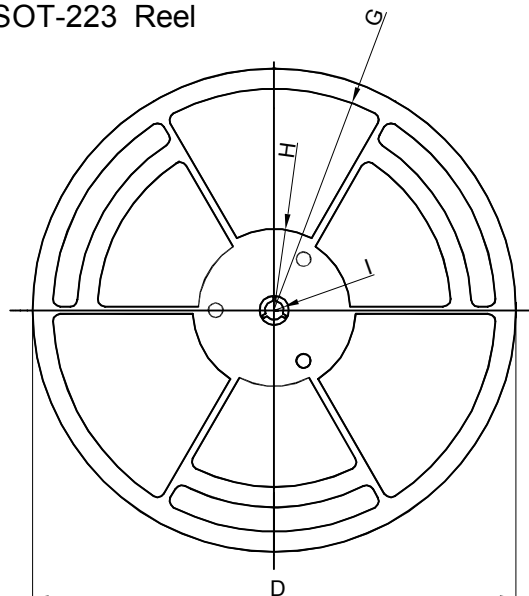
SOT-223 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 2,500 units per 13" or 33.0cm 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
13" Dia	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13 inch	2,500 pcs	336×336×48	20,000 pcs	445×355×365	