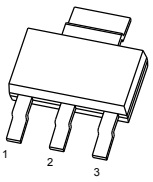
SOT-223 Plastic-Encapsulate MOSFETS

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

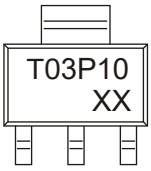
GENERAL DESCRIPTION

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

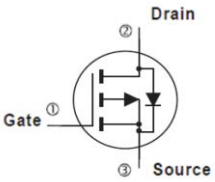
- High density cell design for ultra low $R_{DS(ON)}$
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

MARKING



T03P10= Device code
XX= C o d e

EQUIVALENT CIRCUIT



Maximum ratings (T_a=25℃ 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	℃/W
Operation Junction and Storage Temperature Range	T_J,T_{STG}	-55 ~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ 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 =-250μA	-100			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-100V,V_{GS} = 0V,T_J=25℃			-1	μA
		V_{DS} =-100V,V_{GS} = 0V,T_J=125℃			-1	mA
Gate-source leakage current	I_{GSS}	V_{GS} =±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	mΩ
		V_{GS} =-4.5V, I_D =-1A		166	210	mΩ
Forward transconductance	g_{FS}	V_{DS} =-5V, I_D =-3A		7		S
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-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		Ω
Switching Characteristics (note 4)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=-10V,V_{DS}=-50V, ID=-2.6A,R_{GEN}=25Ω (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

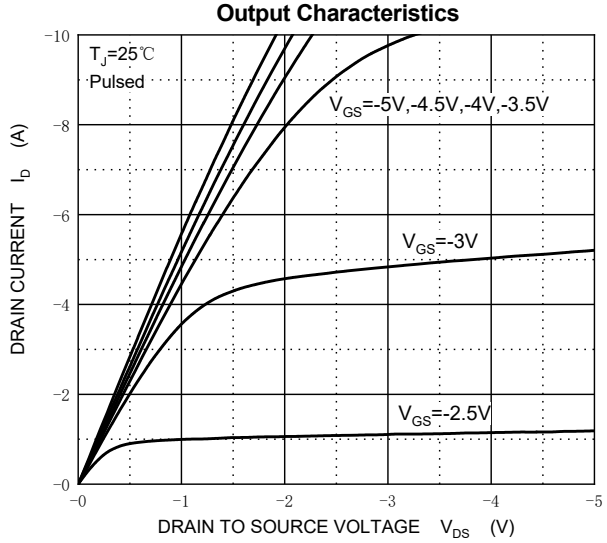
Note :

1. Pulse width<300us, Duty cycle<2%.
2. Essentially independent of operating temperature typical characteristics.
3. RθJA 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.

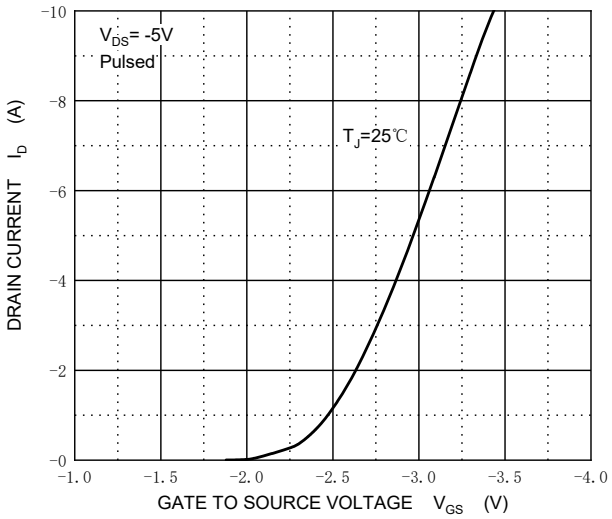
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Typical Characteristics

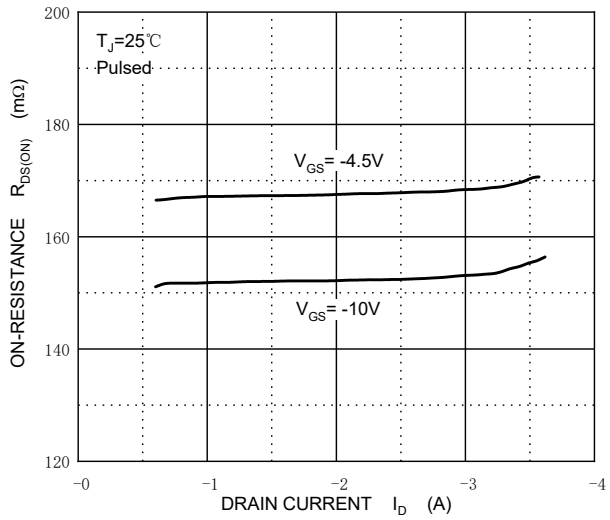
Output Characteristics



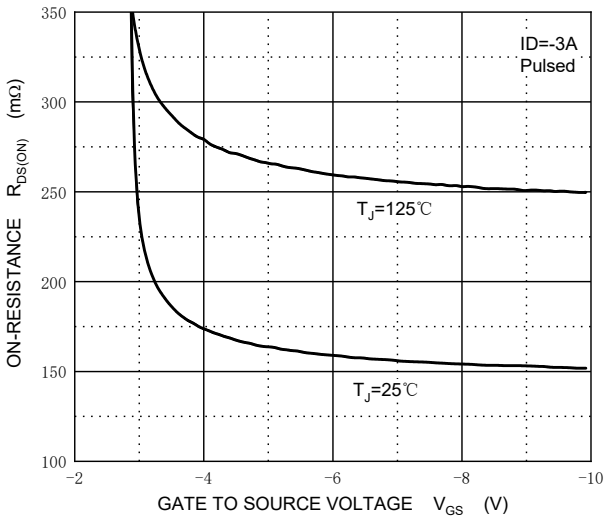
Transfer Characteristics



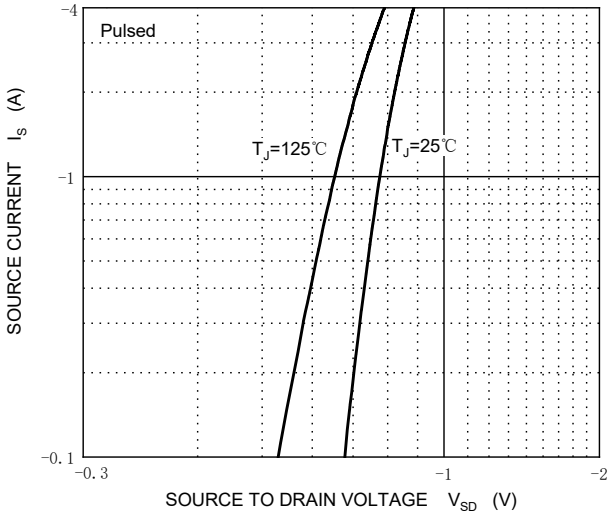
$R_{DS(ON)}$—— I_D



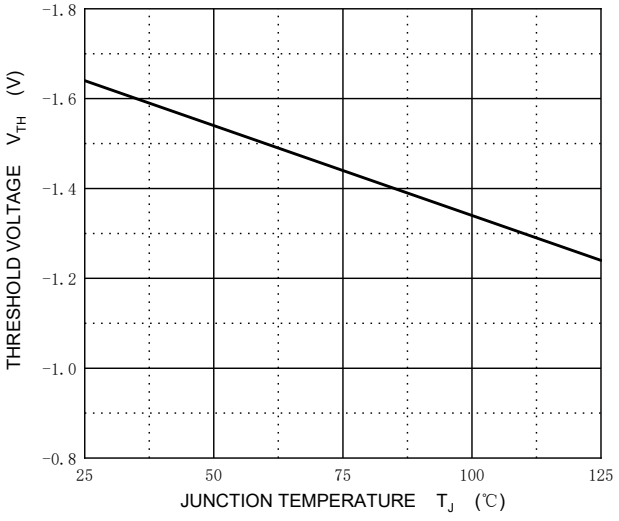
$R_{DS(ON)}$—— V_{GS}



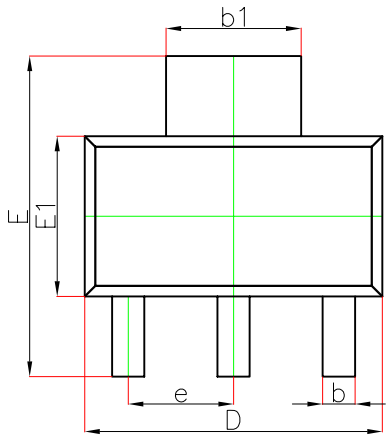
I_S —— V_{SD}

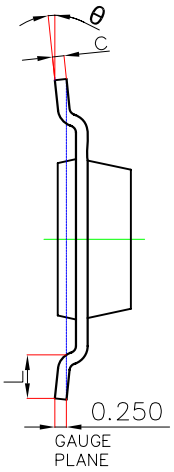


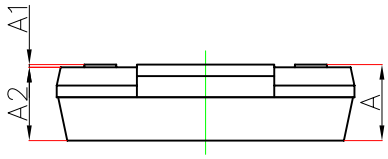
Threshold Voltage



SOT-223 Package Outline Dimensions

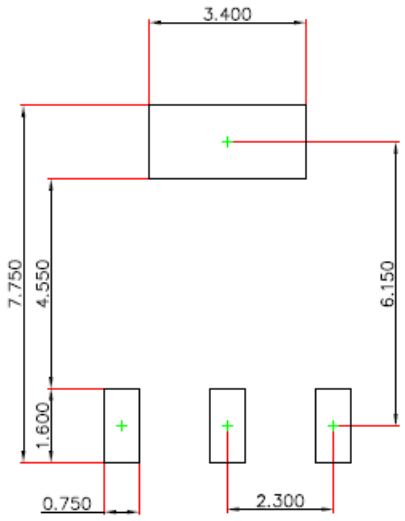






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	——	1.800	——	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	——	0.030	——
θ	0°	10°	0°	10°

SOT-223 Suggested Pad Layout



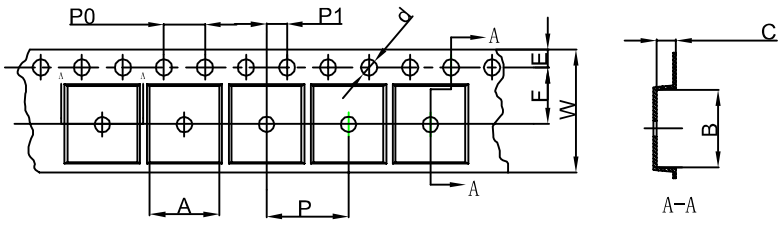
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.050mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

SOT-223 Tape and Reel

SOT-223 Embossed Carrier Tape

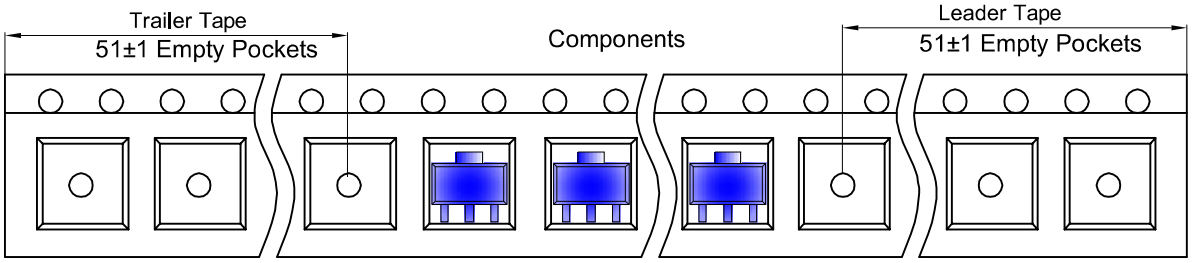


Packaging Description:

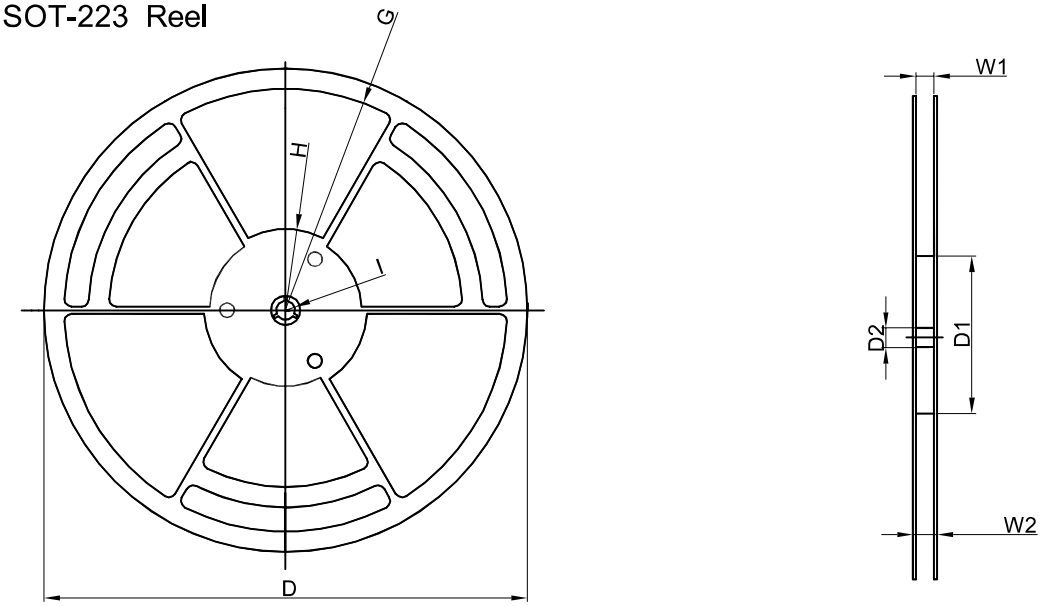
SOT-223 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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	φ330.00	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)**
2,500 pcs	13 inch	5,000 pcs	360×360×65	25,000 pcs	378×358×382

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