



JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

TO-252-2L Plastic-Encapsulate MOSFETS

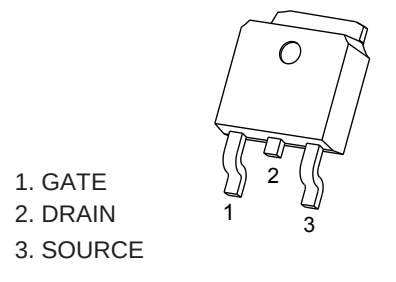
CJU12P10 P-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$ TYP	I_D
-100V	195m Ω @-10V	-12A
	220m Ω @-4.5V	

GENERAL DESCRIPTION

The CJU12P10 uses 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. It is ESD protected.

TO-252-2L



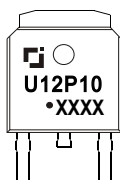
FEATURE

- $V_{DS}=-100V, I_D=-12A$
 $R_{DS(on)} < 250m\Omega$ @ $V_{GS}=-10V$ (Typ: 195m Ω)
- ESD Protection
- Advanced trench process technology
- Reliable and rugged
- High density cell design for ultra low On-Resistance

APPLICATION

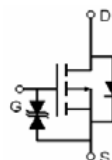
- Power management in notebook computer
- Portable equipment and battery powered systems

MARKING



U12P10 = Device code.
Solid dot = Green molding compound device,
if none, the normal device.
XXXX = Code.

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	-12	A
Pulsed Drain Current	I_{DM}	-48	
Single Pulsed Avalanche Energy (note1)	E_{AS}	49	mJ
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	
Maximum lead temperature for soldering purposes , 1/8" from case for 5 seconds	T_L	260	

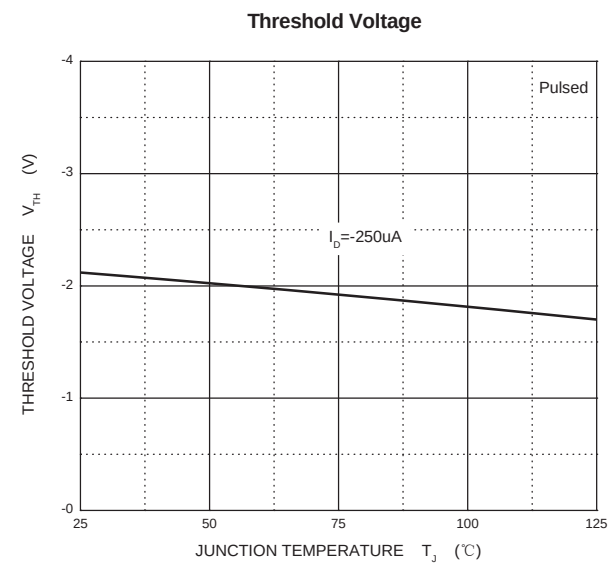
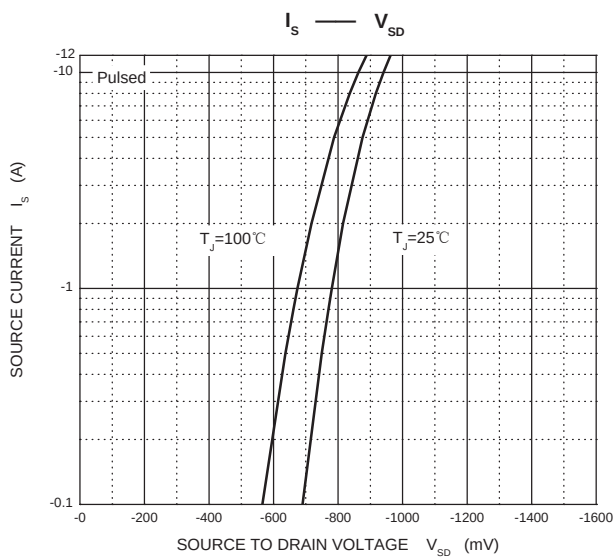
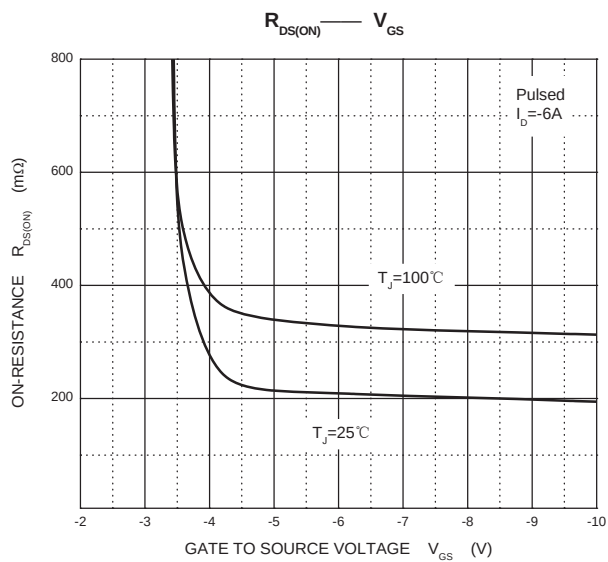
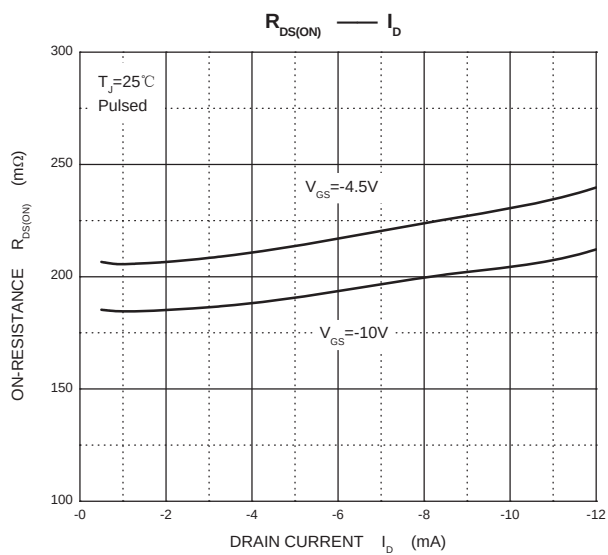
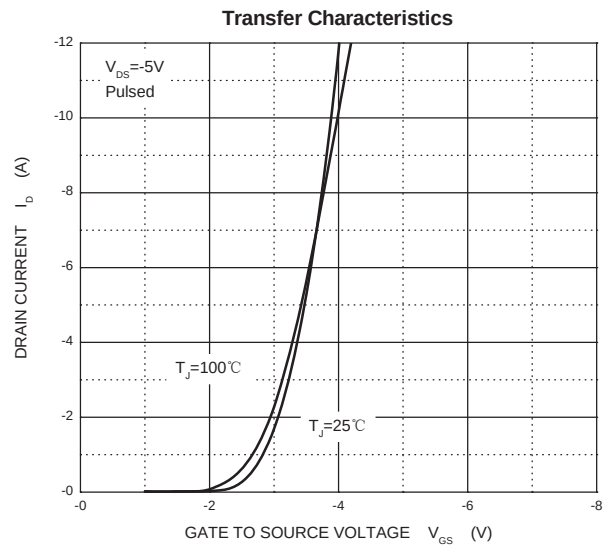
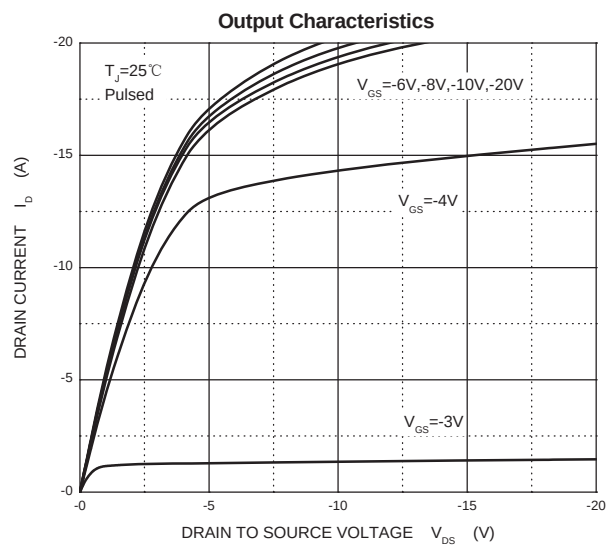
MOSFET ELECTRICAL CHARACTERISTICS

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

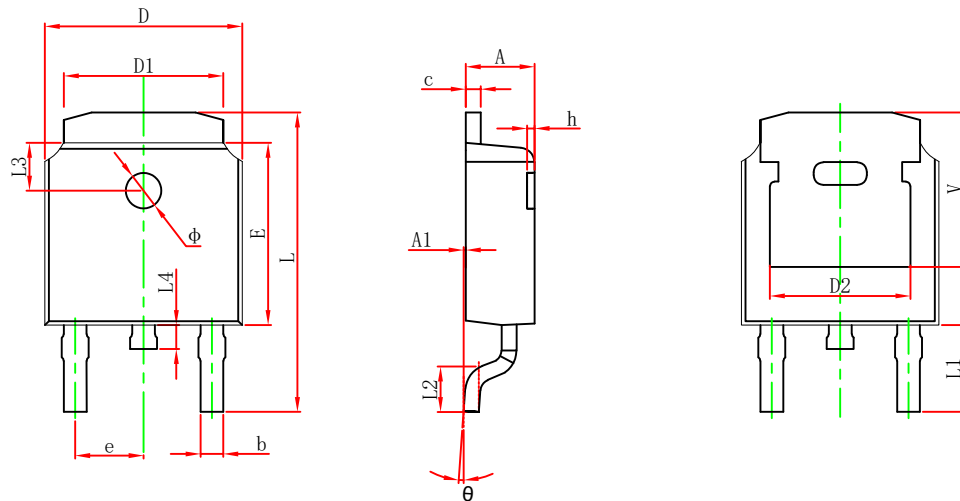
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR) DSS}	V _{GS} = 0V, I _D =-250μA	-100			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-100V, V _{GS} =0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±10	μA
On characteristics (note2)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1	-2.1	-3	V
Static drain-source on-sate resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-6A		195	250	mΩ
		V _{GS} =-4.5V, I _D =-6A		220	280	
Dynamic characteristics (note 3)						
Input capacitance	C _{iss}	V _{DS} =-25V,V _{GS} =0V, f =1MHz		760		pF
Output capacitance	C _{oss}			260		
Reverse transfer capacitance	C _{rss}			170		
Switching characteristics (note 3)						
Total gate charge	Q _g	V _{DS} =-50V, V _{GS} =-10V, I _D =-10A		25		nC
Gate-source charge	Q _{gs}			5		
Gate-drain charge	Q _{gd}			7		
Turn-on delay time	t _{d(on)}	V _{DD} =-50V,V _{GS} =-10V, R _G =9.1Ω, I _D =-10A		14		ns
Turn-on rise time	t _r			18		
Turn-off delay time	t _{d(off)}			50		
Turn-off fall time	t _f			18		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage(note2)	V _{SD}	V _{GS} =0V, I _S =-10A			-1.2	V
Continuous drain-source diode forward current	I _S				-12	A
Pulsed drain-source diode forward current	I _{SM}				-48	A

Notes:

1. $L=0.5mH, V_{DD}=-50V, V_G=-10V, R_G=25\Omega$, Starting $T_J=25^{\circ}\text{C}$.
2. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
3. Guaranteed by design, not subject to production.

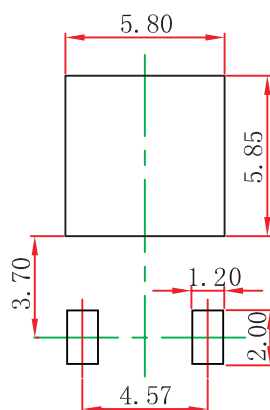


TO-252-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

TO-252-2L Suggested Pad Layout



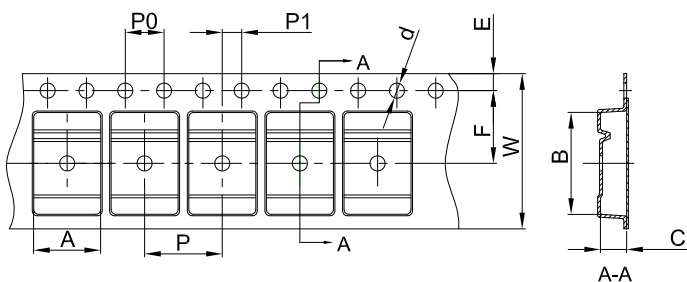
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
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.

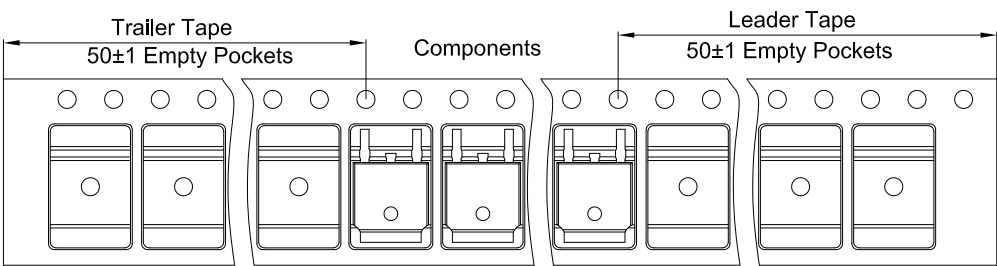
TO-252 Embossed Carrier Tape



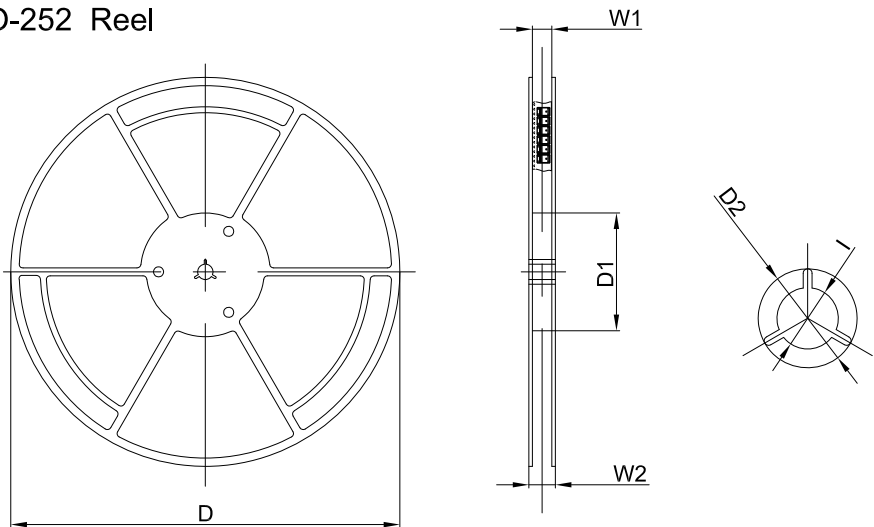
Packaging Description:
TO-252 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 25,00 units per 13" or 33.0 cm 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
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00

TO-252 Tape Leader and Trailer



TO-252 Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	W1	W2	I
13"Dia	330.00	100.00	Ø21.00	16.40	21.00	Ø13.00

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13inch	2,500 pcs	340×336×29	25,000 pcs	353×346×365	