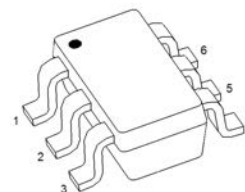


SOT-23-6L Plastic-Encapsulate MOSFETS

FTK02N10 N-Channel 100V(D-S) MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
100V	100mΩ@10V	2A

SOT- 23- 6L



General Description

The FTK02N10 uses advanced trench technology to provide excellent $R_{DS(on)}$ with low gate charge. This device is suitable for use as a load switch or in PWM applications.

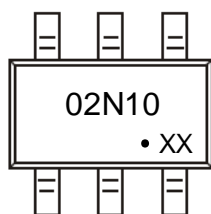
FEATURE

- Excellent package for good heat dissipation
- Ultra low gate charge
- Low reverse transfer capacitance
- Fast switching capability
- Avalanche energy specified

APPLICATION

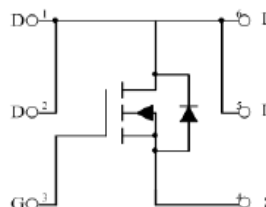
- Power switching application

MARKING



02N10=Device code
Solid point=Pin1 positioning point
XX=Date Code

Equivalent Circuit



Maximum ratings (T_a=25°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	2	A
Pulsed Drain Current	I_{DM}	10	
Maximum Power Dissipation	P_D	0.8	W
Thermal Resistance from Junction to Ambient (t ≤ 5s)	$R_{\theta JA}$	156	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	- 55 ~ +150	°C



FTK02N10

MOSFET ELECTRICAL CHARACTERISTICS

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

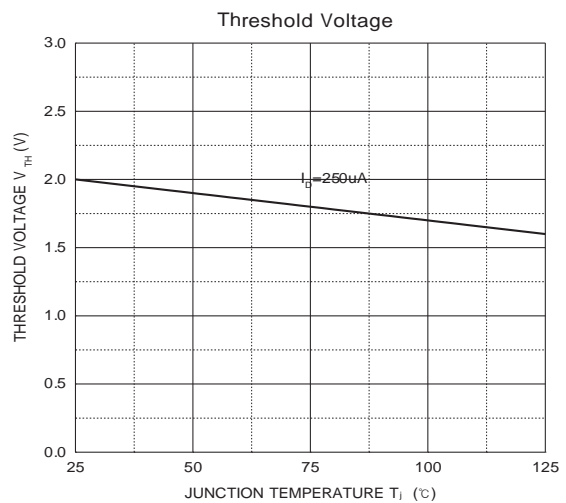
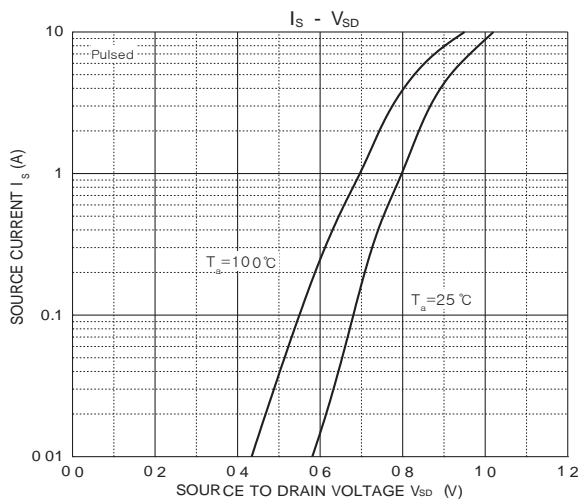
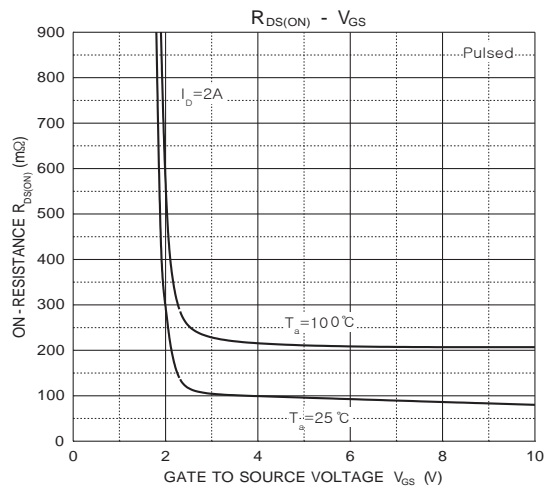
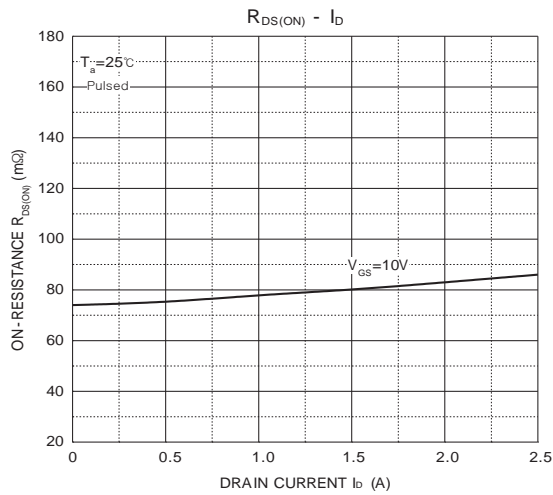
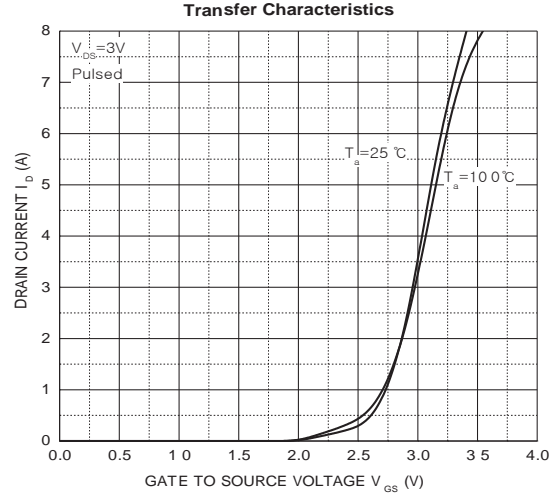
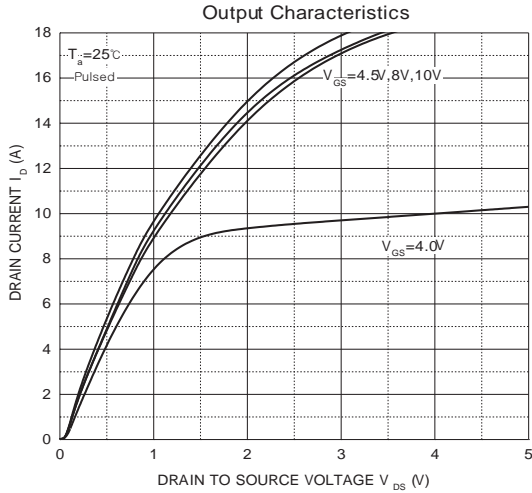
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.0		3.0	
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
Drain-source on-state resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 2.0A$		80	100	$m\Omega$
Dynamic^b						
Input capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		890		pF
Output capacitance	C_{oss}			60		
Reverse transfer capacitance	C_{rss}			25		
Total gate charge	Q_g	$V_{DS} = 80V, V_{GS} = 10V, I_D = 2A$		24		nC
Gate-source charge	Q_{gs}			5		
Gate-drain charge	Q_{gd}			8		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 25V, V_{GS} = 10V, R_G = 1\Omega, R_L = 5\Omega$		14.2		ns
Rise time	t_r			33.7		
Turn-off delay time	$t_{d(off)}$			40.2		
Fall time	t_f			6		
Drain-source body diode characteristics						
Body diode voltage	V_{SD}	$V_{GS} = 0V, I_S = 2A,$		0.8	1.2	V

Notes :

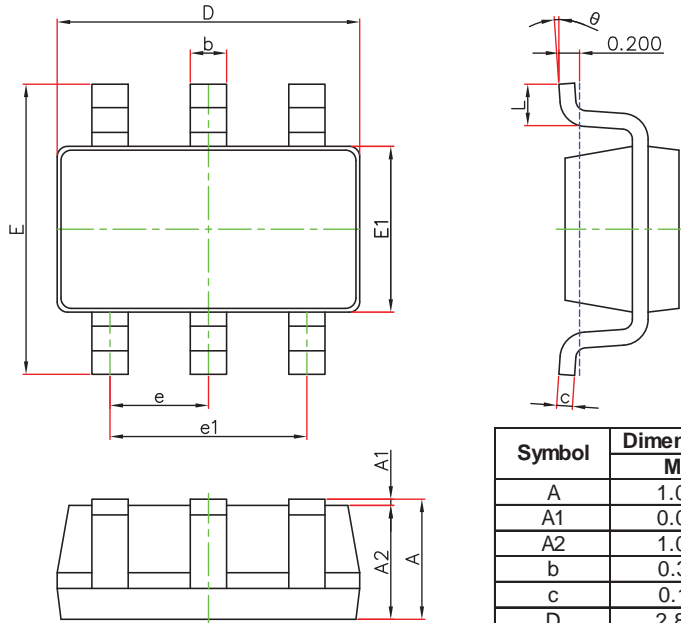
a. Pulse Test : Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.

b. Guaranteed by design, not subject to production testing.

Typical Characteristics

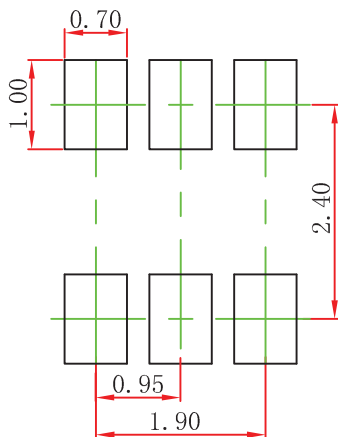


SOT-23-6L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
K	0°	8°	0°	8°

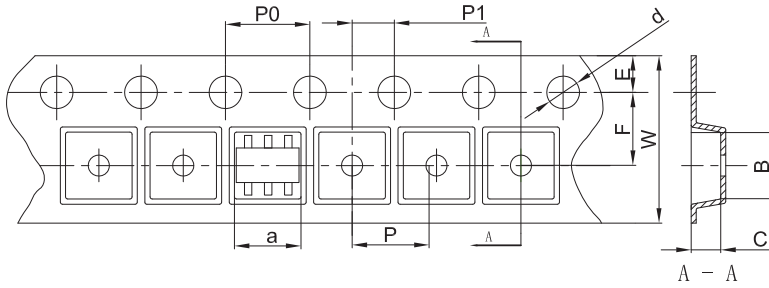
SOT-23-6L Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

SOT-23-6L Tape and Reel

SOT-23-6L Embossed Carrier Tape

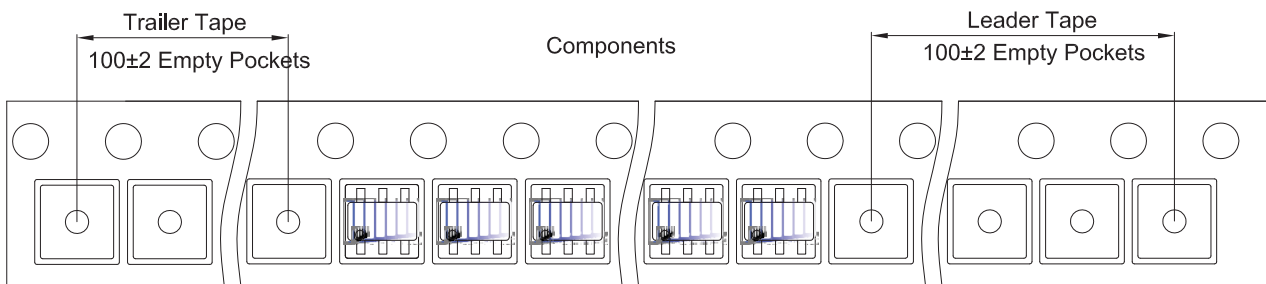


Packaging Description:

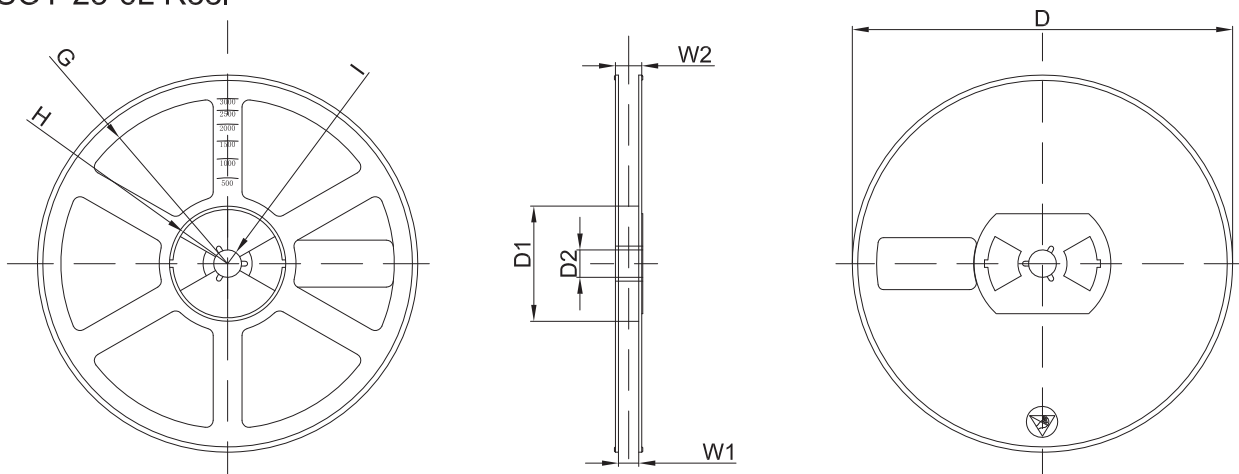
SOT-23-6L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 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-23-6L	3.17	3.23	1.37	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00	

SOT-23-6L Tape Leader and Trailer



SOT-23-6L Reel



Dimensions are in millimeter									
Reel Option	D	D1	D2	G	H	I	W1	W2	
7"Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10	

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	