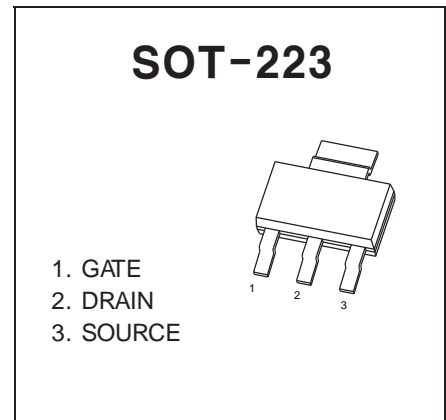


N-Channel Power MOSFET

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

GENERAL DESCRIPTION

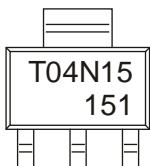
This FTK04N15T use advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge. It can be used in a wide variety of applications.



FEATURE

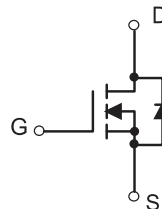
- High density cell design for ultra low $R_{DS(on)}$
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

MARKING



T04N15= Device code
151=Code

EQUIVALENT CIRCUIT



Maximum ratings ($T_a=25^\circ\text{C}$ unless other wise oted)

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	$^\circ\text{C}/\text{W}$
JunctionTemperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	- 55~ +150	
Maximum lead temperure for soldering purposes , 1/8" from case for 5 seconds	T_L	260	



FTK04N15T

Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	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	μA
Gate-body leakage current (note2)	I _{GSS}	V _{DS} = 0V, V _{GS} = ± 20V			± 100	nA
On characteristics (note2)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.5	2.0	2.5	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 4.0A		130	160	mΩ
Forward transconductance	g _{fs}	V _{DS} = 15V, I _D = 4A	5			S
Dynamic characteristics (note 3)						
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		
Switching characteristics (note 3)						
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 = 6Ω, I _D = 1.0A, R _L = 75Ω		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		

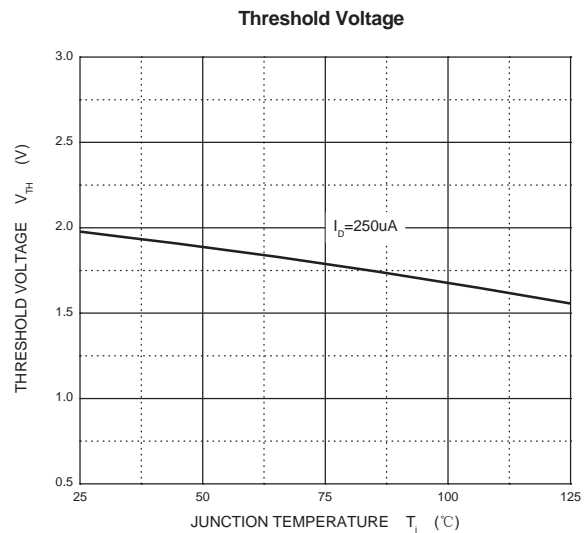
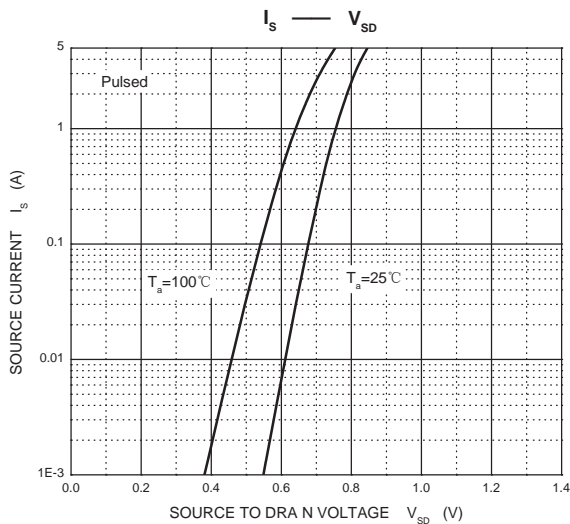
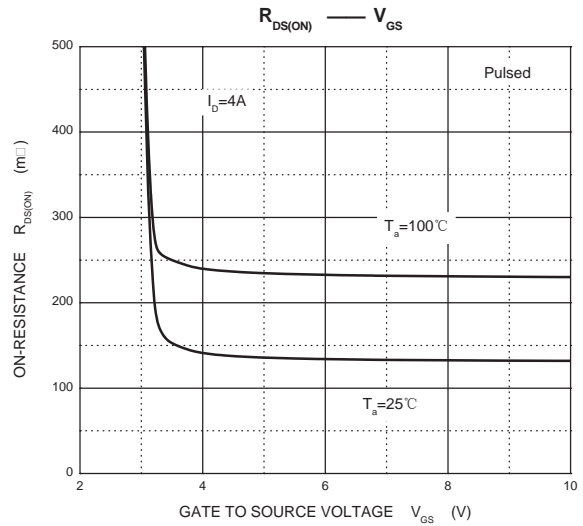
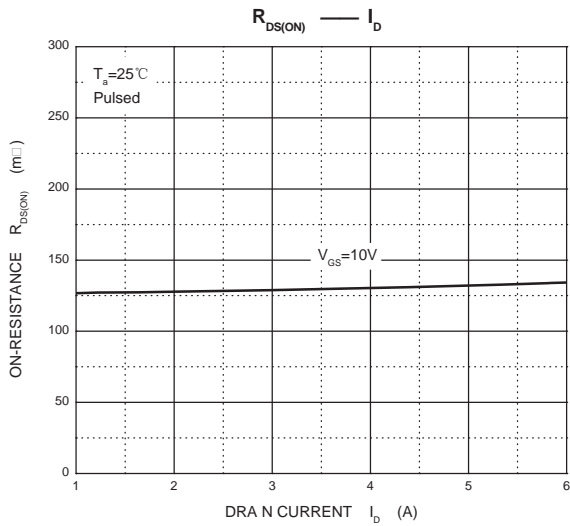
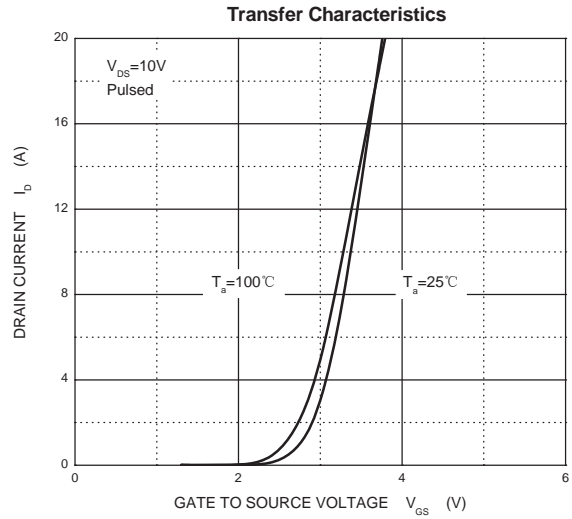
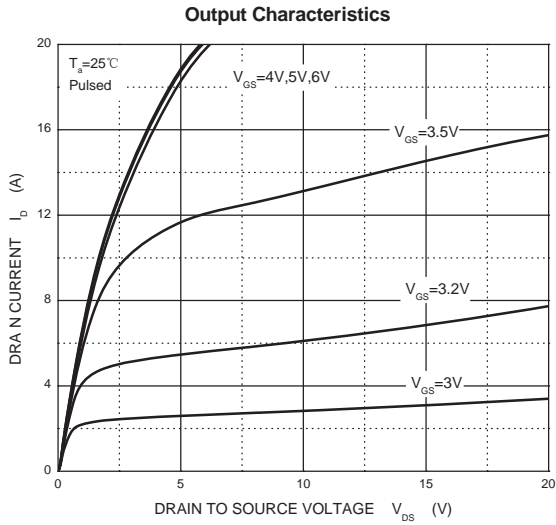
Notes :

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
3. These parameters have no way to verify.

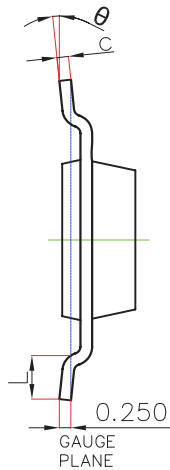
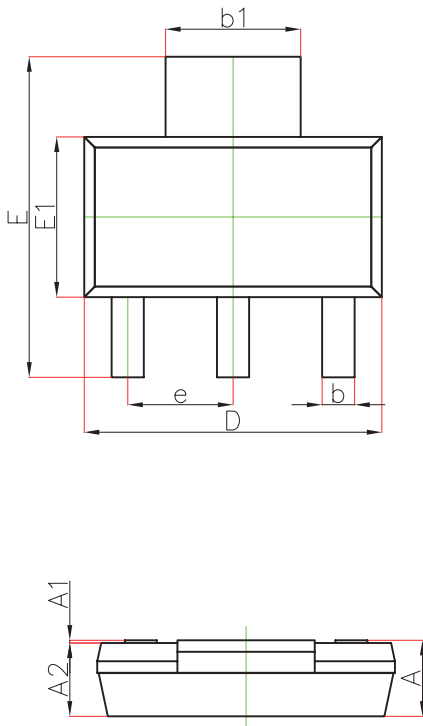


FTK04N15T

Typical Electrical and Thermal Characteristics (Curves)

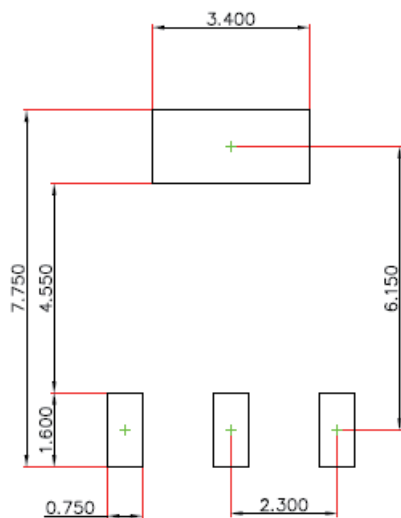


SOT-223 Package Outline Dimensions



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: ± 0.050 mm.
3. The pad layout is for reference purposes only.