

SK05N50C-TF

500V, 5A N-Channel MOSFET

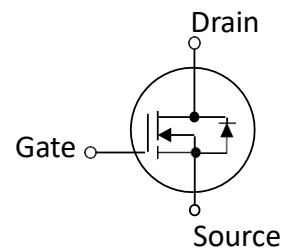
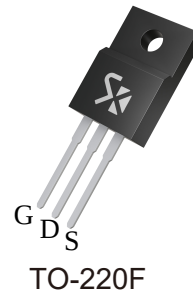
DESCRIPTION

The SK05N50C-TF is a high voltage power MOSFET. It is obtained by the self-aligned planar technology which reduce the conduction loss, improve switching performance and enhance the avalanche energy.

FEATURES

- $BV_{DSS} \geq 500V$
- $I_D = 5A$
- $R_{DS(ON)} \leq 1.4\Omega @ V_{GS}=10V$

BV_{DSS}	$R_{DS(ON),typ.}$	I_D
500V	1.4 Ω	5A



Package No to Scale

Application

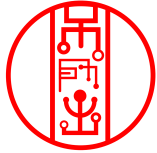
This power MOSFET is usually in various powerswitching circuit for system miniaturization and higher efficiency such as SMPS, Adaptor, Charger, PFC, Lighting, UPS, Solar and other applications.

Ordering Information

Part Number	Package
SK05N50C-TF	TO-220F

Absolute Maximum Ratings ($T_c=25^\circ C$ Unless Otherwise Noted)

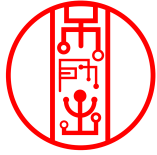
Parameter	Symbol	Maximum Ratings	Unit
Drain-Source Voltage	V_{DS}	500	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current - Continues	I_D	5	A
Operating and Storage Temperature	T_J, T_{STG}	-55 ~ +150	$^\circ C$



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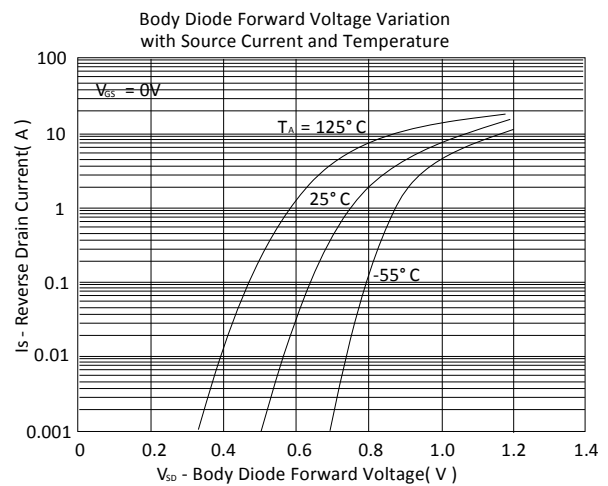
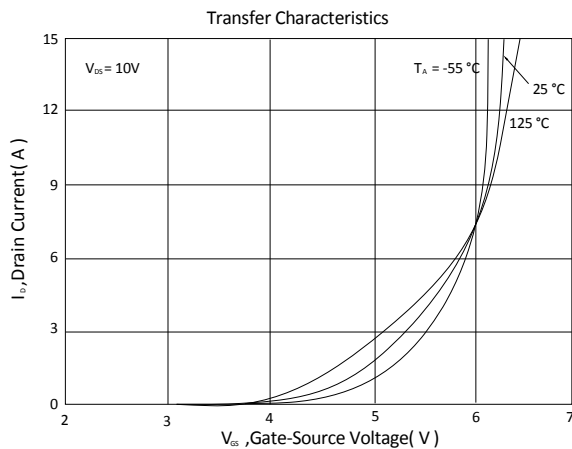
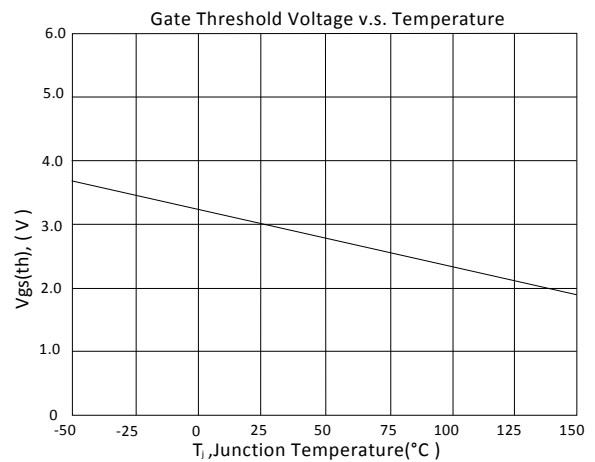
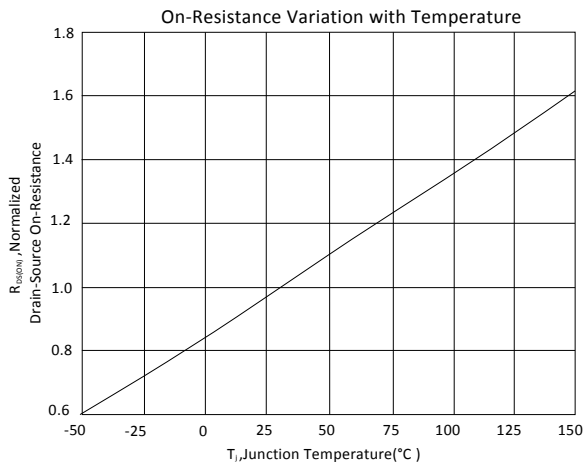
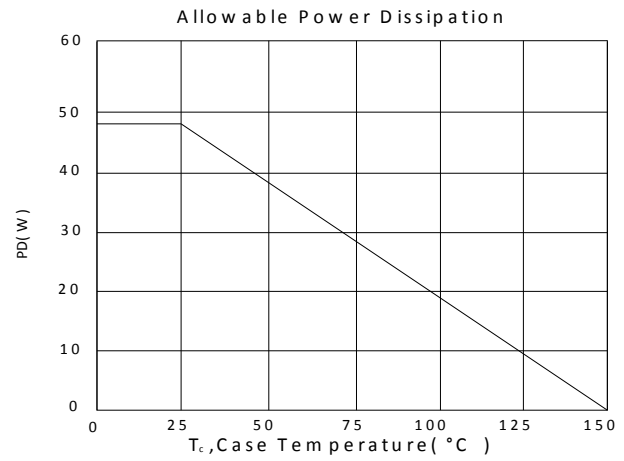
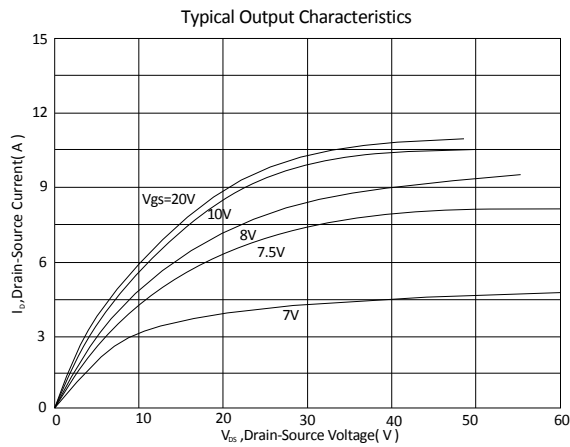
- Electrical Characteristics ($T_a = 25\text{ }^{\circ}\text{C}$ Unless Otherwise Noted)

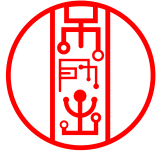
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0\text{ V}$, $I_{DS} = 250\text{ }\mu\text{A}$	500	-	-	V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$, $I_{DS} = 250\text{ }\mu\text{A}$	2.0	-	4.0	V
I_{DSS}	Drain Leakage Current	$V_{DS} = 500\text{ V}$, $V_{GS} = 0\text{ V}$	-	-	1	μA
		$T_J = 85\text{ }^{\circ}\text{C}$	-	-	30	μA
I_{GSS}	Gate Leakage Current	$V_{GS} = \pm 30\text{ V}$, $V_{DS} = 0\text{ V}$	-	-	± 100	nA
$R_{DS(ON)}$	On-State Resistance	$V_{GS} = 10\text{ V}$, $I_{DS} = 2.5\text{ A}$	-	-	1.4	Ω
Diode Characteristics						
V_{SD}	Diode Forward Voltage	$I_{SD} = 2\text{ A}$, $V_{GS} = 0\text{ V}$	-	0.78	1.1	V



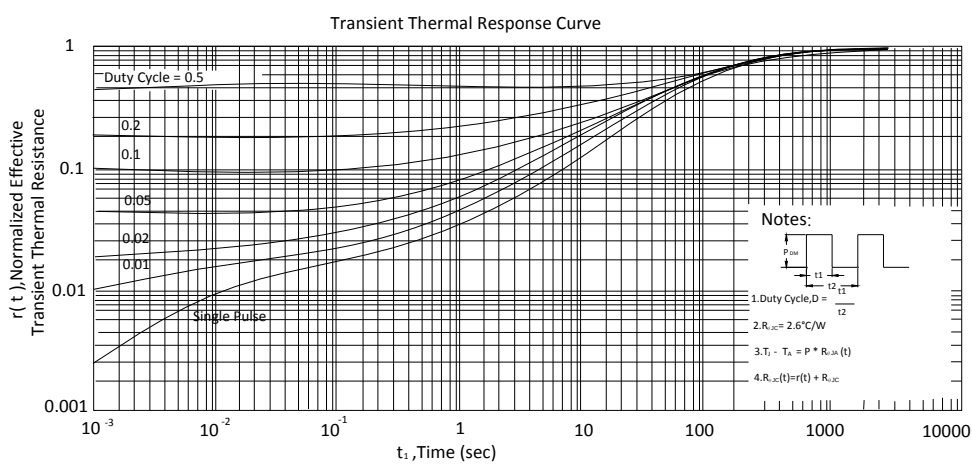
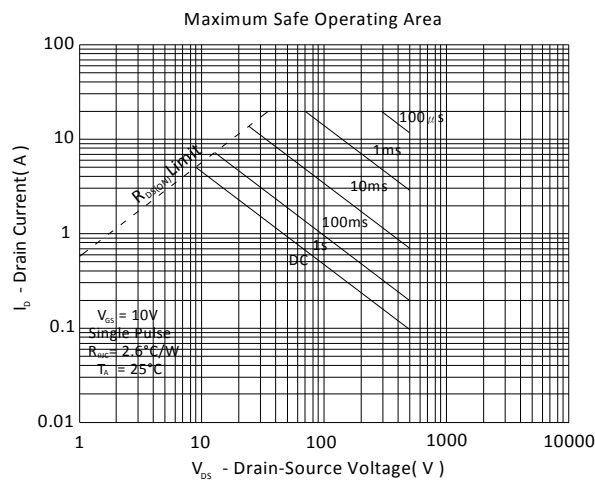
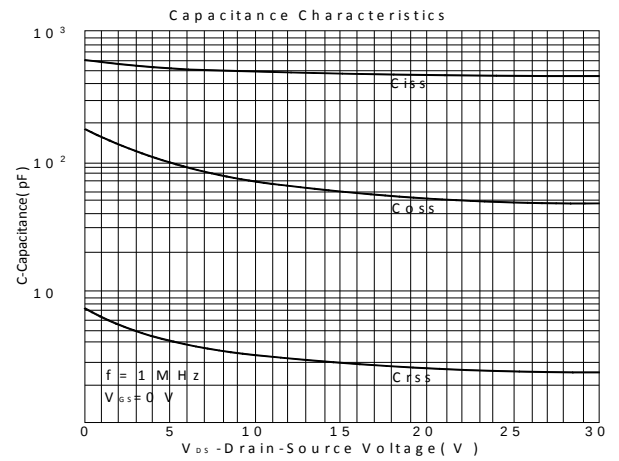
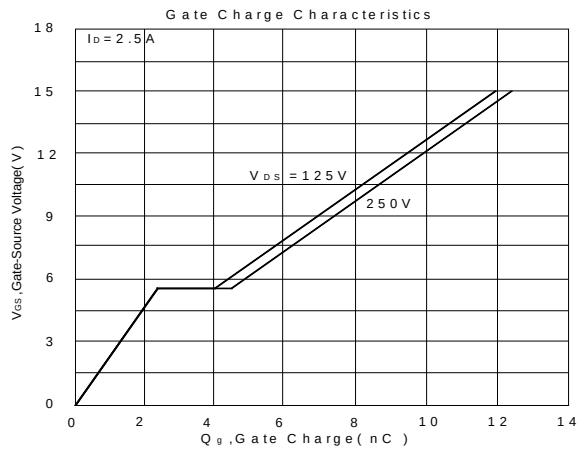
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Typical Characteristics



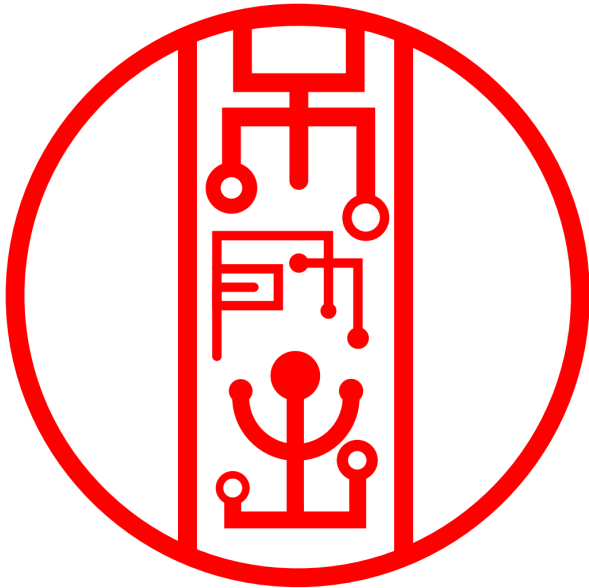


SK05N50C-TF



PACKAGE OUTLINE

TO-220F



	Unit (mm)	
	MIN	MAX
A	9.70	10.30
B	15.50	16.10
B1	8.99	9.39
C	4.40	4.80
C1	2.15	2.55
D	2.50	2.90
E	0.70	0.90
F	0.40	0.60
G	1.12	1.42
H	3.40	3.80
L	12.6	13.6
N	2.34	2.74
Q	3.15	3.55
Φ P	3.00	3.30