

## 40V,240A N-Channel MOSFET

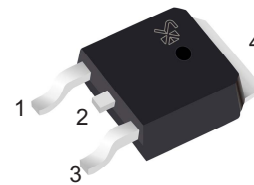
### DESCRIPTION

- Proprietary New Trench Technology
- LowGate Charge Minimize Switching Loss
- Fast Recovery Body Diode

$BV_{DSS}$	$R_{DS(ON),typ.}$	$I_D$
40V	3.3m $\Omega$	240A

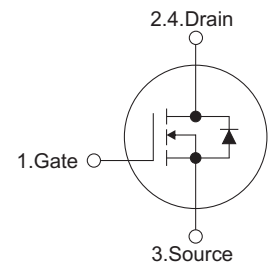
### FEATURES

- $BV_{DSS} \geq 40V$
- $I_D = 240A$
- $R_{DS(ON)} \leq 3.3m\Omega @ V_{GS}=10V$



TO-252

Package No to Scale



### Application

- High efficiency DC/DC Converters
- Synchronous Rectification
- UPS Inverter

### Ordering Information

Part Number	Package
SK240N04	TO-252

### Absolute Maximum Ratings (T<sub>C</sub>=25°C Unless Otherwise Noted)

Parameter	Symbol	Maximum Ratings	Unit
Drain-Source Voltage	V <sub>DS</sub>	40	V
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Drain Current - Continues	I <sub>D</sub>	240	A

## Electrical Characteristic ( $T_J=25^{\circ}\text{C}$ unless otherwise specified.)

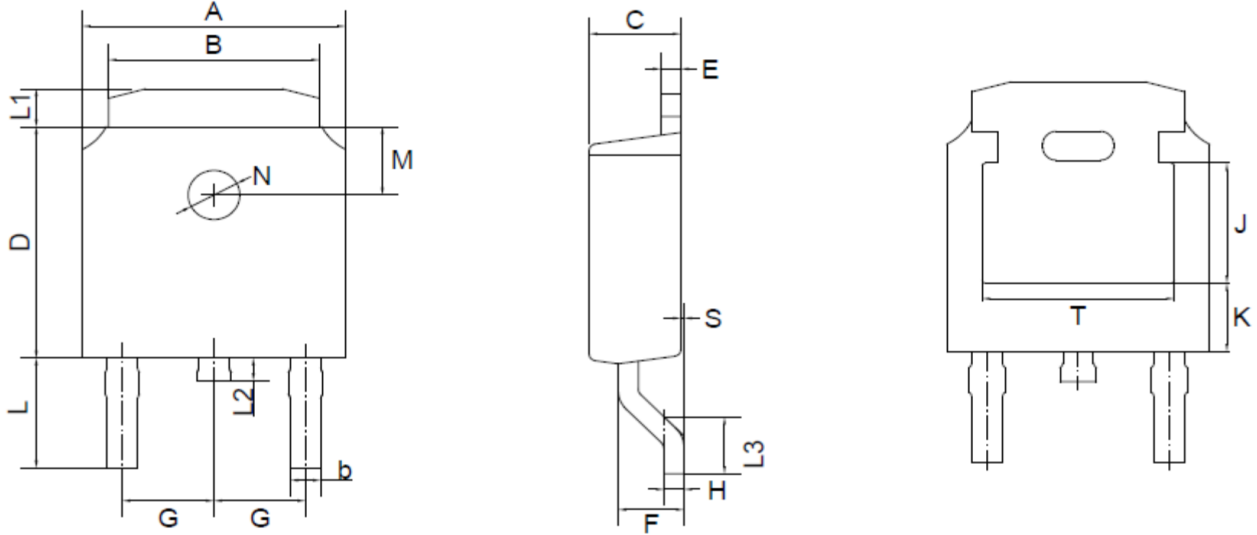
Parameter	Description	Min.	Typ.	Max.	Test Conditions	Unit
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	40	--	--	$V_{GS} = 0V, I_D = 250\mu A$	V
$V_{GSS}$	Gate-to-Source Voltage	--	--	$\pm 20$	NA	V
$R_{DS(on)}$	Static Drain-to-Source On-Resistance <sup>[1][2]</sup>	--	--	3.3	$V_{GS} = 10V, I_D = 80A$	m $\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	2.0	--	4.0	$V_{DS} = V_{GS}, I_D = 250\mu A$	V
$V_{SD}$	Diode Forward Voltage	--	--	1.2	$I_S=80A, V_{GS}=0V$	V
$I_{DSS}$	Drain-to-Source Leakage Current	--	--	1	$V_{DS} = 40V, V_{GS} = 0V, T_J = 25^{\circ}\text{C}$	$\mu A$
$I_{GSS}$	Gate-to-Source Leakage Current	--	--	$\pm 100$	$V_{GS} = \pm 20V$	nA
$T_j$	Operating Junction and Storage	-55 $^{\circ}\text{C}$ to 150 $^{\circ}\text{C}$ Max.				$^{\circ}\text{C}$
$T_{STG}$	Temperature Range					

Note:

[1] Pulse width $\leq 380\mu s$ ; duty cycle $\leq 2\%$ .

## PACKAGE OUTLINE

TO-252(D-PAK)



TO-252(D-PAK) mechanical data

UNIT	A	B	b	C	D	E	F	G	H	L	L1	L2	L3	S	M	N	J	K	T	
mm	max	6.7	5.5	0.8	2.5	6.3	0.6	1.8	2.29	0.55	3.1	1.2	1.0	1.75	0.1	1.8	1.3	3.16	1.80	4.83
	min	6.3	5.1	0.3	2.1	5.9	0.4	1.3	TYPICAL	0.45	2.7	0.8	0.6	1.40	0.0	TYPICAL	TYPICAL	ref.	ref.	ref.
mil	max	264	217	31	98	248	24	71	90	22	122	47	39	69	4	71	51	124	71	190
	min	248	201	12	83	232	16	51	TYPICAL	18	106	31	24	55	0	TYPICAL	TYPICAL	ref.	ref.	ref.