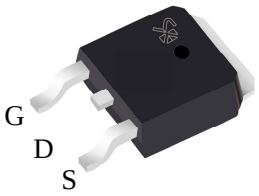
SKG90N10

100V, 90A N-Channel MOSFET

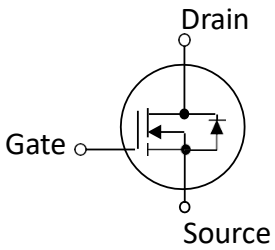
DESCRIPTION

- Advanced trench cell design
- High speed switch
- RoHS Compliant

BV_{DSS}	$R_{DS(ON),typ.}$	I_D
100V	5mΩ	90A



TO-252



Package No to Scale

FEATURES

- $BV_{DSS} \geqq$ 100V
- I_D = 90A
- $R_{DS(ON)} \leqq$ 12 mΩ@VGS=10V

Application

- Motor drive and uninterruptible power supply
- Industrial automation control equipment
- High efficiency DC/DC Converters

Ordering Information

Part Number	Package
SKG90N10	TO-252

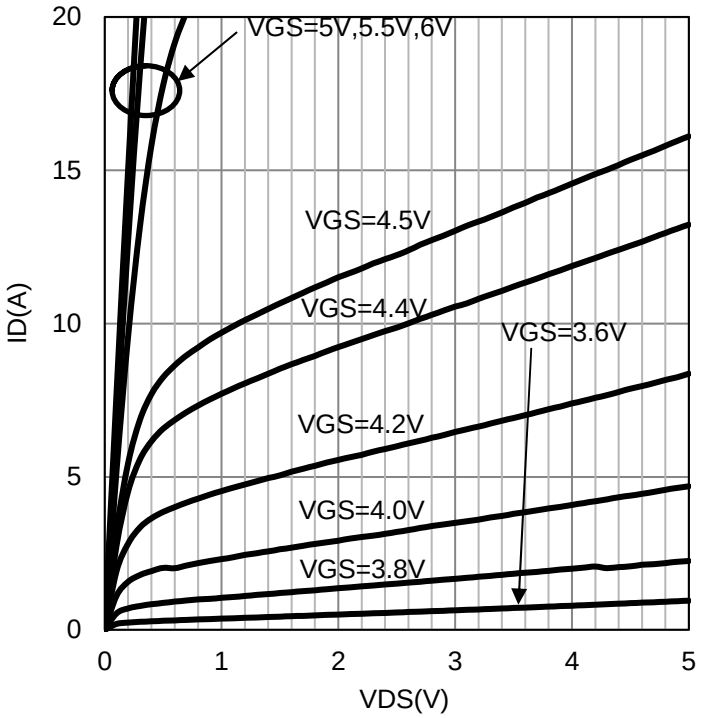
Absolute Maximum Ratings (Tc=25℃ Unless Otherwise Noted)

Parameter	Symbol	Maximum Ratings	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current - Continues	I_D	90	A
Operating and Storage Temperature	T_J, T_{STG}	-55 ~ +150	℃

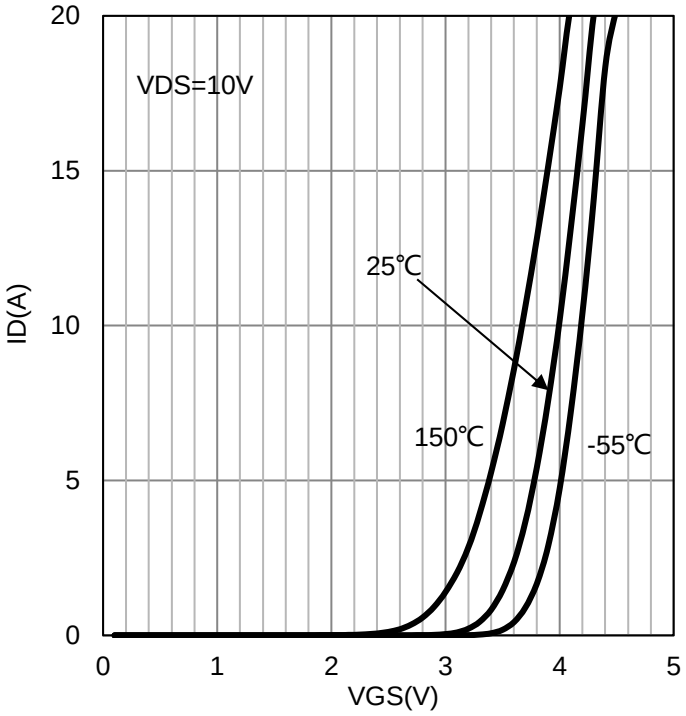
- **Electrical Characteristics (Ta = 25 °C Unless Otherwise Noted)**

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0 V, I_{DS} = 250 μA	100	-	-	V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_{DS} = 250 μA	2	3	4	V
I_{DSS}	Drain Leakage Current	V_{DS} = 80 V, V_{GS} = 0 V	-	-	1	μA
I_{GSS}	Gate Leakage Current	V_{GS} = ±20 V, V_{DS} = 0 V	-	-	±100	nA
$R_{DS(ON)}$	On-State Resistance	V_{GS} = 10 V, I_{DS} = 20 A	-	5	12	mΩ
Diode Characteristics						
V_{SD}	Diode Forward Voltage	I_{SD} = 2 A, V_{GS} = 0 V	-	0.7	1.1	V

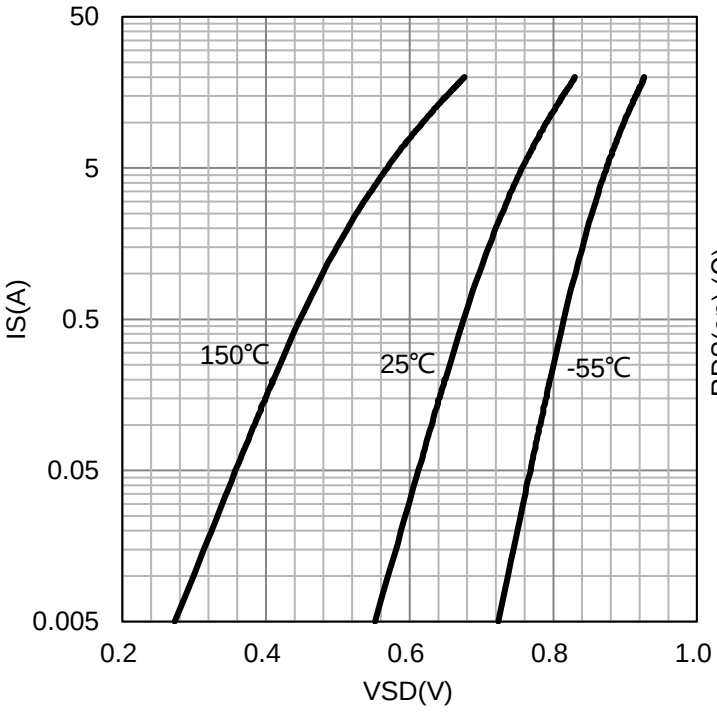
Typical Characteristics



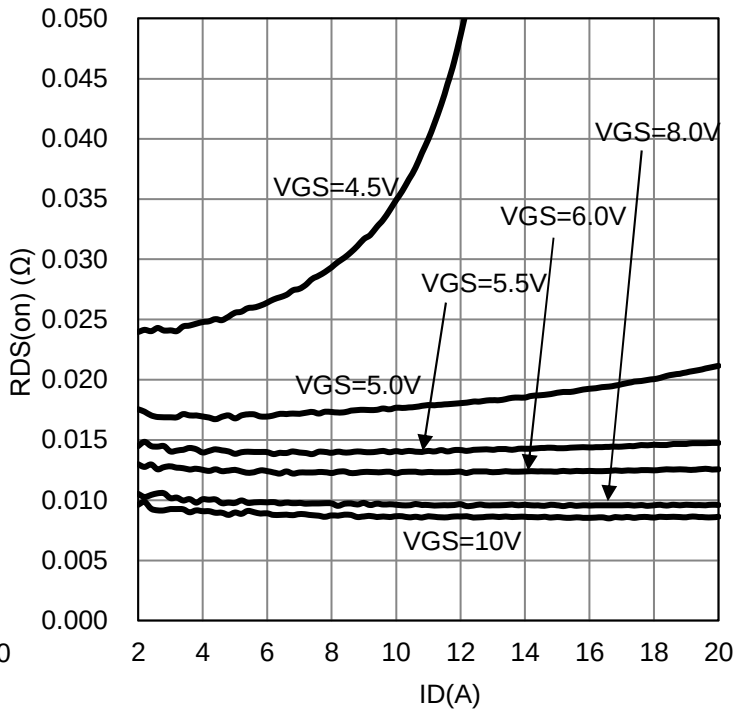
ID vs. VDS



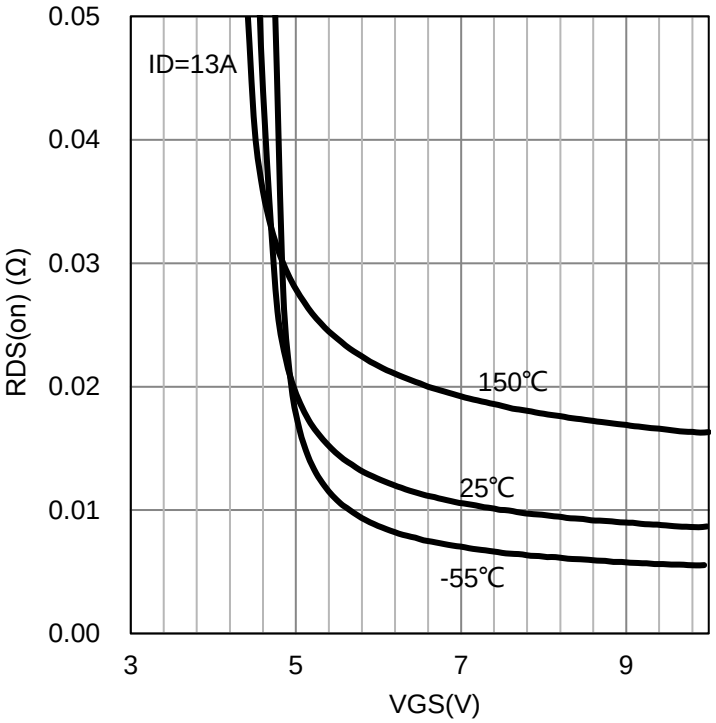
ID vs. VGS



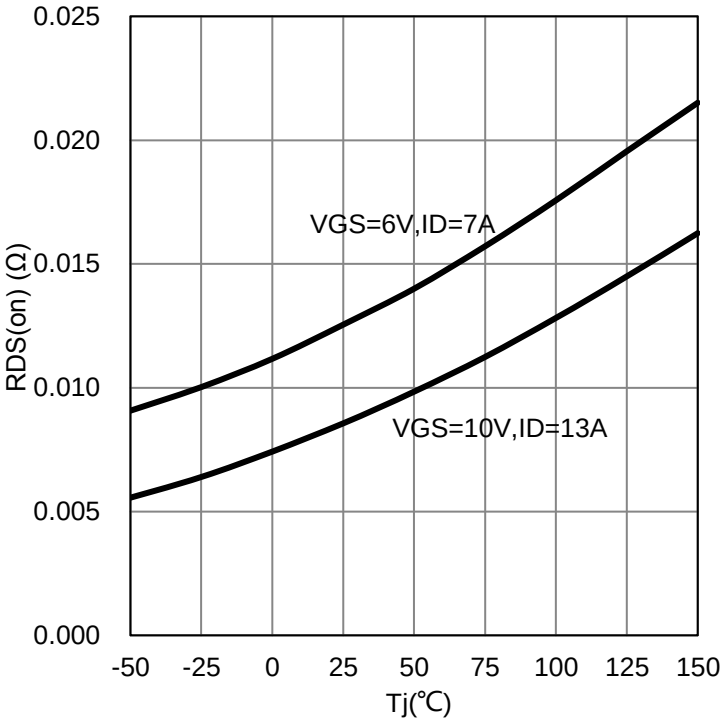
IS vs. VSD



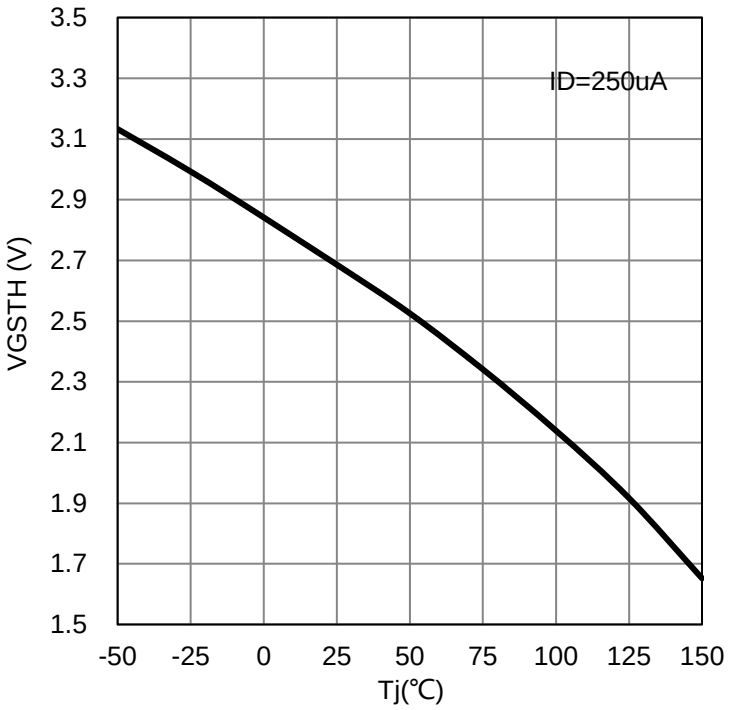
RDS(on) vs. ID



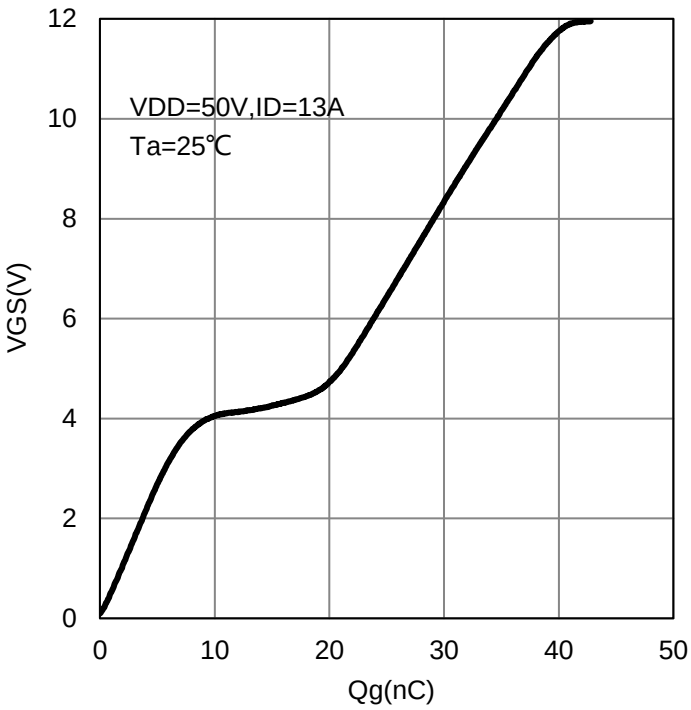
RDS(on) vs. VGS



RDS(on) vs. Tj



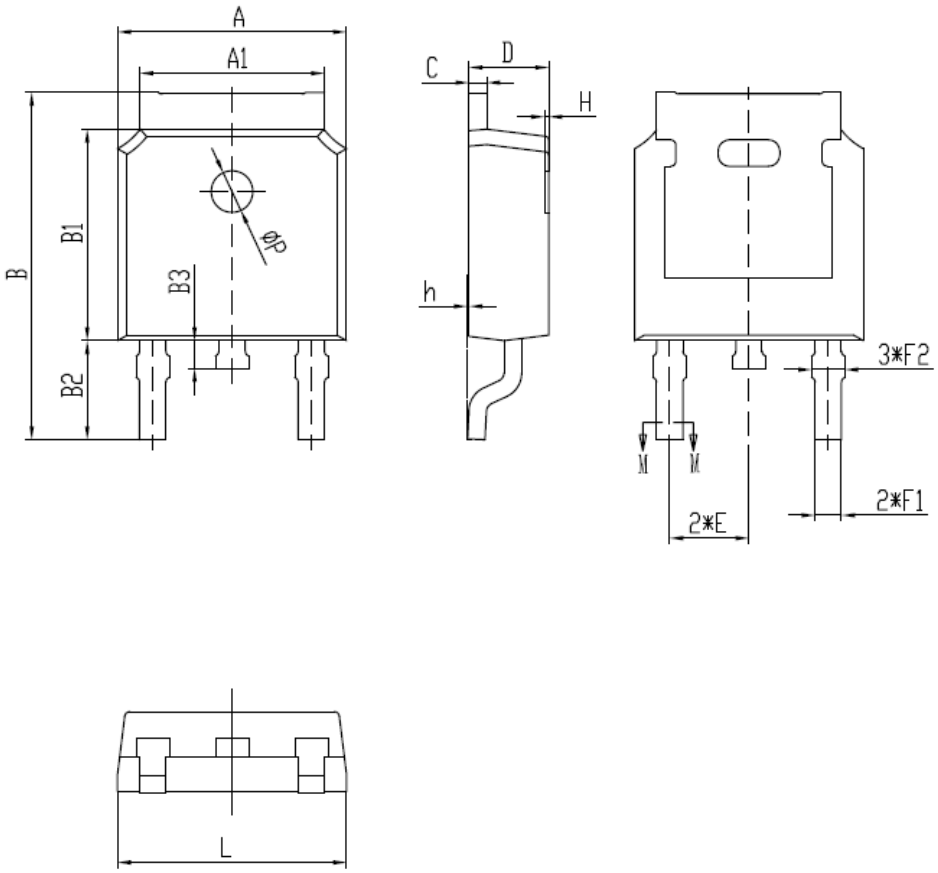
VGSTH vs. Tj



VGS vs. Qg

PACKAGE OUTLINE

TO-252



Symbol	Dimensions In Millimeters	
	MIN	MAX
A	6.50	6.70
A1	5.16	5.46
B	9.77	10.17
B1	6.00	6.20
B2	2.60	3.00
B3	0.70	0.90
C	0.45	0.61
D	2.20	2.40
E	2.186	2.386
F1	0.67	0.87
F2	0.76	0.96
H	0.00	0.30
h	0.00	0.127
L	6.50	6.70
Φ P	1.10	1.30