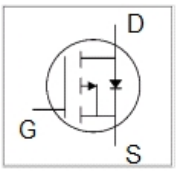
金易微半導體
Kingeavy Semiconductor

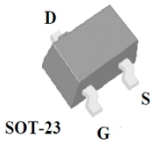
KE3407T0U-L

P-CHANNEL ENHANCEMENT MODE POWER MOSFET

- **Simple Drive Requirement**
- **Small Package Outline**
- **Surface Mount Device**
- **RoHS Compliant & Halogen-Free**



BV_{DSS}	-30V
$R_{DS(ON)typ}$	48mΩ
I_D	-4.1



Description

KE3407 is from Kingeavy innovated design and silicon process technology to achieve the lowest possible on- resistance and fast switching performance. It provides the designer with an extreme efficient device for use in a wide range of

Absolute Maximum Ratings@T_j=25°C(unless otherwise specified)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_A=25℃	Drain Current, V_{GS} @ 10V[1]	-4.1	A
I_D@T_A=70℃	Drain Current, V_{GS} @ 10V[1]	-3.2	A
I_{DM}	Pulsed Drain Current[2]	-15	A
P_D@T_A=25℃	Total Power Dissipation[3]	0.3	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	150	℃

Thermal Data

Symbol	Parameter	Value	Unit
Rthj-a	Maximum Thermal Resistance, Junction-ambient[3]	100	℃/W

Electrical Characteristics@T_j=25 oC(unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	VGS=0V, ID=250uA	-30	-	-	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	VGS=10V, ID=-4.1A	-	48	65	mΩ
		VGS=-4.5V, ID=-3A	-	60	95	mΩ
$V_{GS(th)}$	Gate Threshold Voltage	VDS=VGS, ID=250uA	-1	-	-3	V
g_{fs}	Forward Transconductance	VDS=5V, ID=-4A	5.5	-	-	S
I_{DSS}	Drain-Source Leakage Current	VDS=24V, VGS=0V	-	-	-1	uA
I_{GSS}	Gate-Source Leakage	VGS=±20V, VDS=0V	-	-	±100	nA
$t_{d(on)}$	Turn-on Delay Time	VDS=-16V ID=1A RG=6Ω VGS=-4.5V	-	8.5	-	ns
t_r	Rise Time		-	4.5	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	26	-	ns
t_f	Fall Time		-	12.5	-	ns
C_{iss}	Input Capacitance	VGS=0V VDS=-6V f=1.0MHz	-	700	-	pF
C_{oss}	Output Capacitance		-	120	-	pF
Crss	Reverse Transfer Capacitance		-	75	-	pF

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_{SD}	Forward On Voltage²	I_S=1A, V_{GS}=0V	-	-	-1.2	V

Notes:

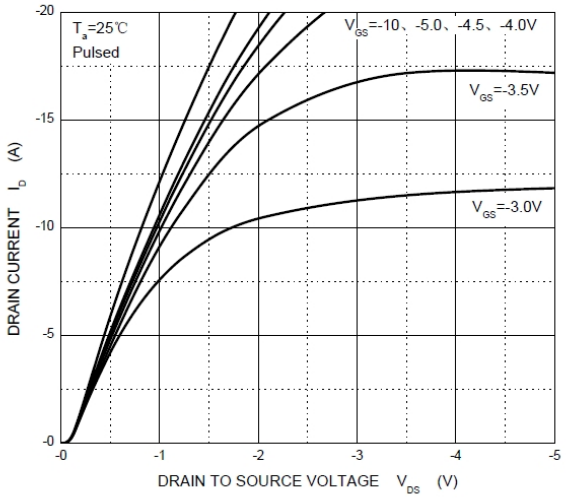
1.Pulse width limited by Max. junction temperature.

2.Pulse test

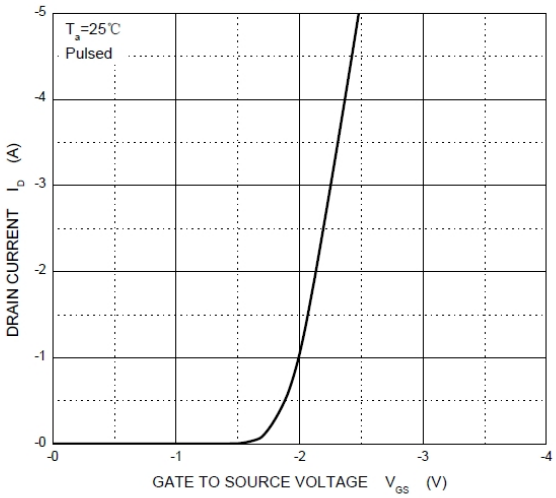
3.Surface mounted on 1 in^2 2oz copper pad of FR4 board, t ≤10sec ; 300°C/W when mounted on min. copper pad.

Typical Performance Characteristics

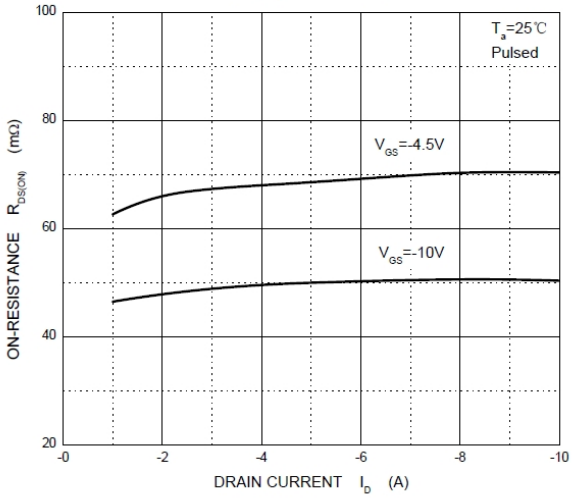
Output Characteristics



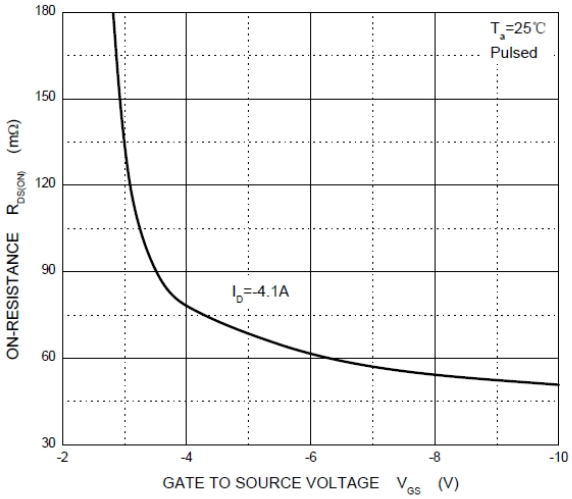
Transfer Characteristics



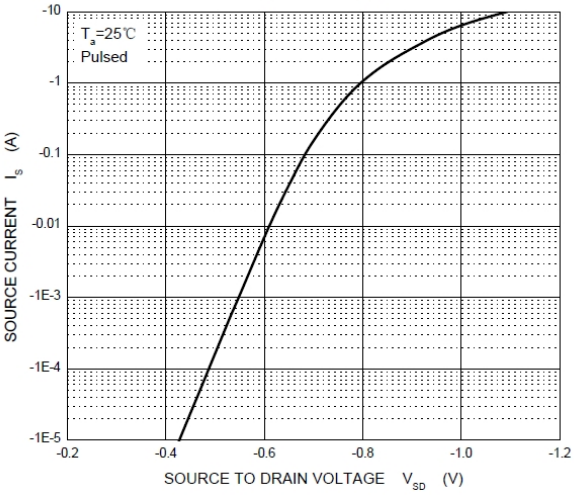
$R_{DS(ON)}$ —— I_D



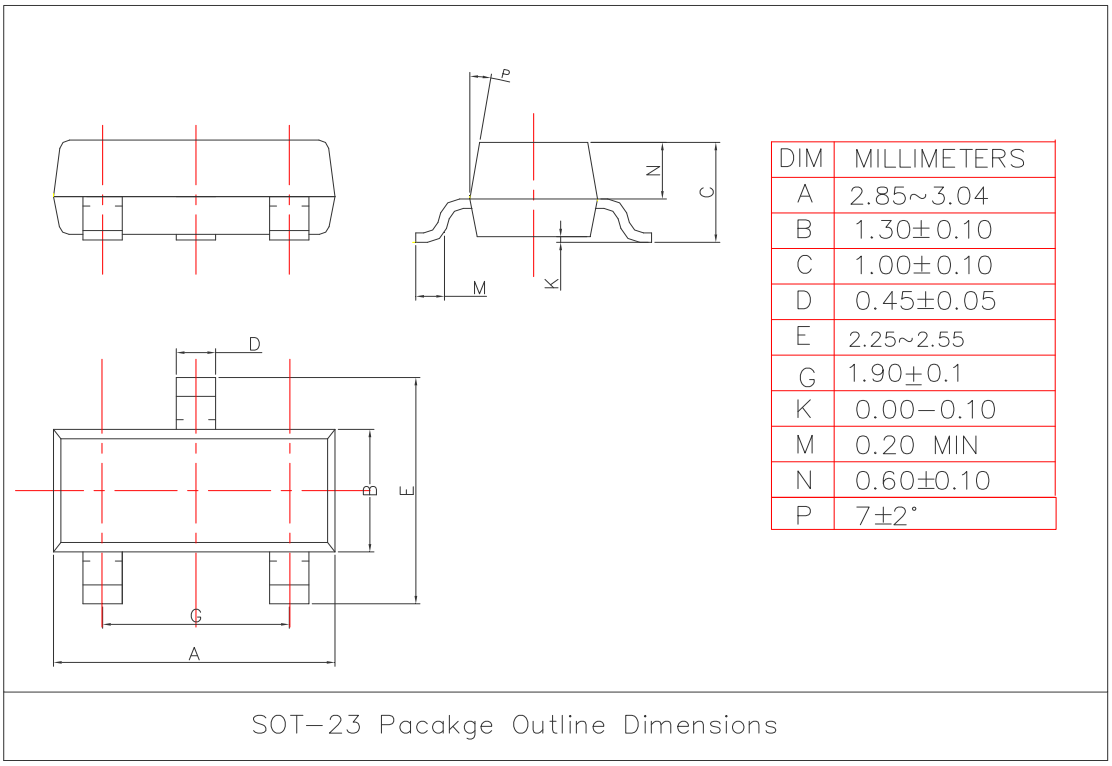
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Package Outline : SOT-23



DIM	MILLIMETERS
A	2.85~3.04
B	1.30±0.10
C	1.00±0.10
D	0.45±0.05
E	2.25~2.55
G	1.90±0.1
K	0.00−0.10
M	0.20 MIN
N	0.60±0.10
P	7±2°

SOT−23 Pacakge Outline Dimensions

SOT-23 FOOTPRINT:(mm)