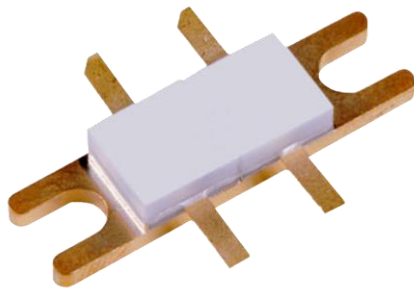


RF POWER MOSFET

D2213UK

Features:

- Gold metallised
- Simplified amplifier design
- Low C_{rss}
- Low noise
- High gain – 10dB minimum
- RoHS compliant



Description:

Multi-Purpose Silicon DMOS RF MOSFET
20W – 12.5V – 1GHz – Push Pull

Applications:

Suitable for HF, VHF & UHF broadband applications

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

P_D	Power Dissipation	83W
$BV_{DSS}^{(1)}$	Drain – Source Breakdown Voltage	40V
$BV_{GSS}^{(1)}$	Gate – Source Breakdown Voltage	$\pm 20\text{V}$
$I_D(\text{sat})^{(1)}$	Drain Current	8A
T_{Jstg}	Storage Temperature	-65 to $+150^\circ\text{C}$
T_j	Maximum Operating Junction Temperature	200°C

Thermal Properties

SYMBOL	PARAMETER	MAX	UNITS
$R_{THj\text{-case}}$	Thermal Resistance, Junction to Case	2.1	$^\circ\text{C/W}$

Electrical Specifications

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	TEST CONDITIONS		MIN	TYP	MAX	UNITS
PER SIDE							
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0	I _D = 10mA	40			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 12.5V	V _{GS} = 0			4	mA
I _{GSS}	Gate Leakage Current	V _{GS} = 20V	V _{DS} = 0			1	μA
V _{GS(th)}	Gate Threshold Voltage	I _D = 10mA	V _{DS} = V _{GS}	1		7	V
g _{fs}	Forward Transconductance	V _{DS} = 10V	I _D = 0.8A	0.72			S
TOTAL DEVICE							
G _{PS}	Common Source Power Gain	P _O = 20W		10			dB
η	Drain Efficiency	V _{DS} = 12.5V I _{DQ} = 0.8A		40			%
VSWR ⁽²⁾	Load Mismatch Tolerance	f = 1GHz		20:1			-

Dynamic Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
PER SIDE						
C _{iss} ⁽²⁾	Input Capacitance	V _{DS} = 12.5V f = 1MHz	V _{GS} = -5V		48	pF
C _{Oss} ⁽²⁾	Output Capacitance	V _{DS} = 12.5V f = 1MHz	V _{GS} = 0V		40	pF
C _{rss} ⁽²⁾	Reverse Transfer Capacitance	V _{DS} = 12.5V f = 1MHz	V _{GS} = 0V		4	pF

Notes:

- (1) Per side
- (2) By design only, not a production test

HAZARDOUS MATERIAL WARNING

The ceramic portion of the device between leads and metal flange is beryllium oxide. Beryllium oxide dust is highly toxic and care must be taken during handling and mounting to avoid damage to this area.

THESE DEVICES MUST NEVER BE THROWN AWAY WITH GENERAL INDUSTRIAL OR DOMESTIC WASTE

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

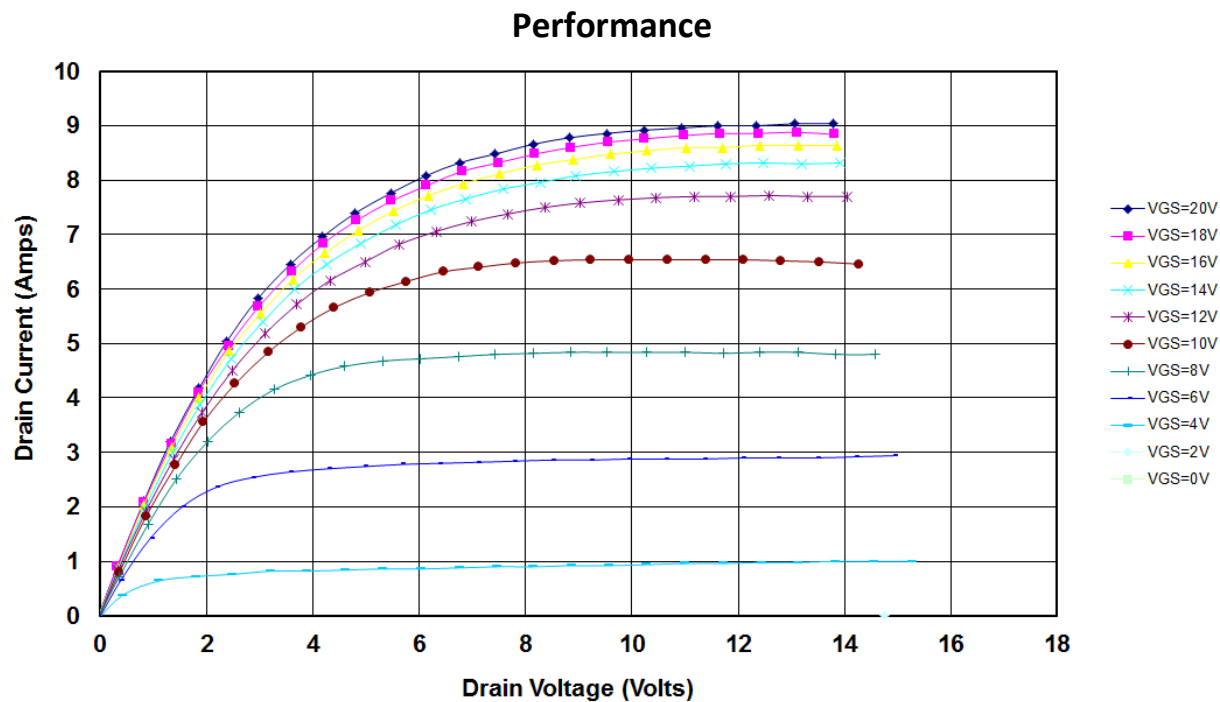


Figure 1 – Typical IV Characteristics

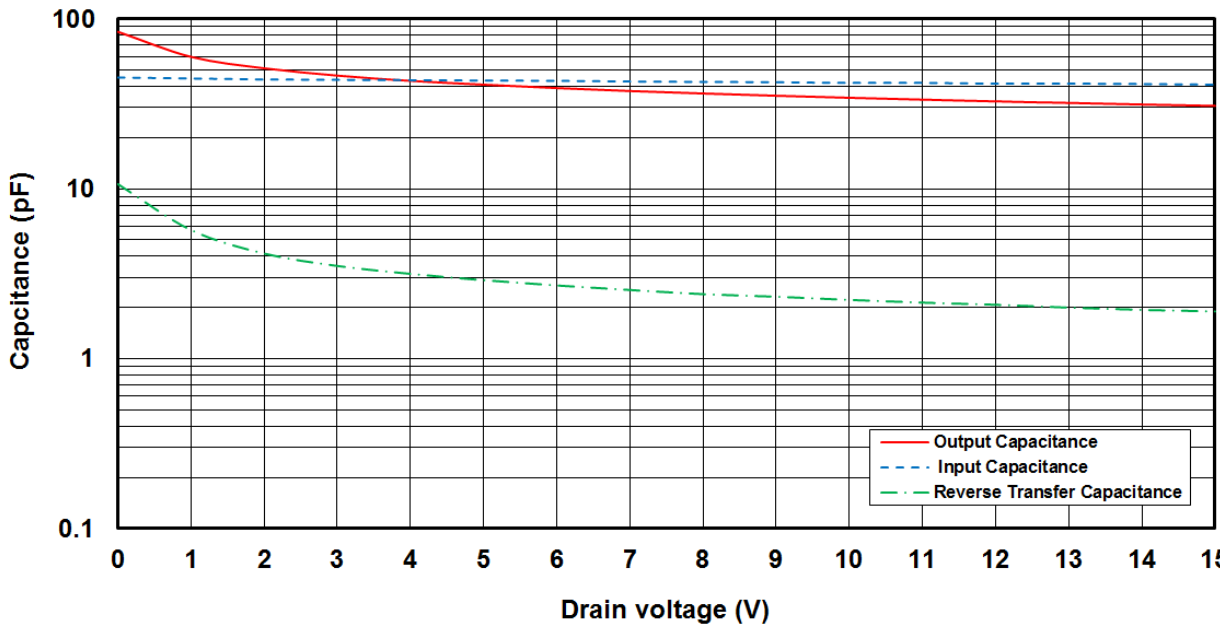
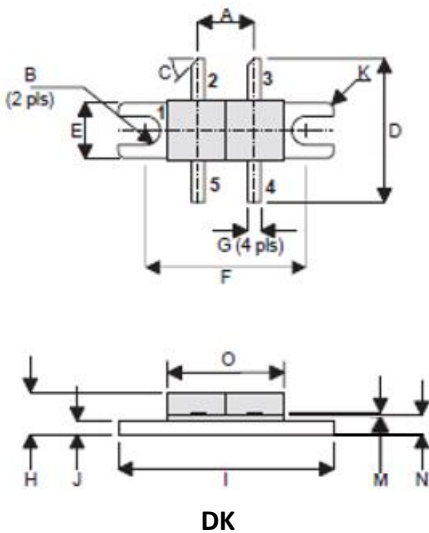


Figure 2 – Typical CV Characteristics

Packaging

Mechanical Data



Pin 1 – Source (Common) Pin 2 – Drain 1
Pin 3 – Drain 2 Pin 4 – Gate 2
Pin 5 – Gate 1

DIM	mm	Tol.	Inches	Tol.
A	6.45	0.13	0.254	0.005
B	1.65R	0.13	0.065R	0.005
C	45°	5°	45°	5°
D	16.51	0.76	0.650	0.030
E	6.47	0.13	0.255	0.005
F	18.41	0.13	0.725	0.005
G	1.52	0.13	0.060	0.005
H	4.19	0.50	0.165	0.020
I	24.76	0.13	0.975	0.005
J	1.52	0.13	0.060	0.005
K	0.81R	0.13	0.032R	0.005
M	0.13	0.02	0.005	0.001
N	2.16	0.13	0.085	0.005
O	12.70	0.50	0.500	0.020