

این دیتاشیت توسط توکل الکترونیک تهیه و ارائه شده است.
جهت مشاهده قیمت، موجودی و ثبت سفارش این قطعه به وبسایت توکل الکترونیک مراجعه فرمایید.



مشاهده قیمت و خرید

برای خرید و مشاهده سایر محصولات کلیک کنید



RFP30P05

P-CHANNEL POWER MOSFETs

FEATURE

These are P-Channel power MOSFETs manufactured using the MegaFET process.

This process, which uses feature sizes approaching those of LSI circuits, gives optimum utilization of silicon, resulting in outstanding performance.

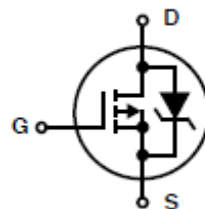
They were designed for use in applications such as switching

regulators, switching converters, motor drivers, and relay drivers.

These transistors can be operated directly from integrated circuits.

They are mounted TO-220 package.

Compliance to RoHS.



ABSOLUTE MAXIMUM RATINGS (T_C= 25°C)

Symbol	Ratings	Value	Unit
V _{DS}	Drain-Source Voltage (1)	-50	V
V _{DGR}	Drain-gate Voltage (R _{GS} = 20kΩ) (1)	-50	V
V _{GS}	Gate-Source Voltage	±20	V
I _{DS}	Continuous Drain Current	30	A
I _{DM}	Pulsed Drain Current (Figure 1)	Refer to peak current curve	
R _{DS(on)}	Drain-Source on Resistance	0.065	Ω
E _{AS}	Single pulse Avalanche Rating (Figure 2)	Refer to UIS curve	
P _T	Power Dissipation at Case Temperature	120	W
	Linear Derating Factor	0.8	W/°C
T _J	Operating Temperature	-55 to +175	°C
t _{stg}	Storage Temperature Range	-55 to +175	
T _L	Maximum Temperature For Soldering Leads At 1.6mm From Case For 10s	300	°C
T _{pkg}	Maximum Temperature For Soldering Package Body For 10s	260	°C

(1) = 25°C to 150°C



RFP30P05

SOURCE TO DRAIN DIODE SPECIFICATIONS

Symbol	Ratings		Min	Typ	Max	Unit
V_{SD}	Source-Drain Diode Voltage	$I_{SD} = -30 \text{ A}$	-	-	-1.5	V
t_{rr}	Reverse Recovery Time	$I_{SD} = -30 \text{ A}$ $di_{SD}/dt = -100\text{A}/\mu\text{s}$	-	-	150	ns

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
V_{DSS}	Drain-Source Breakdown Voltage	$I_D = 250 \mu\text{A}$, $V_{GS} = 0 \text{ V}$	-50	-	-	V
$V_{GS(th)}$	Gate-threshold Voltage	$I_D = 250 \mu\text{A}$, $V_{GS} = V_{DS}$	-2	-	-4	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = -50 \text{ V}$, $V_{GS} = 0 \text{ V}$ $T_j = 25^\circ\text{C}$	-	-	-1	μA
		$V_{DS} = 0.8 \times -50 \text{ V}$ $T_j = 150^\circ\text{C}$	-	-	-25	
I_{GSS}	Gate-Source leakage Current	$V_{GS} = \pm 20 \text{ V}$	-	-	± 100	nA
$R_{DS(on)}$	Drain-Source on Resistance	$I_D = 30 \text{ A}$, $V_{GS} = -10 \text{ V}$	-	-	0.065	Ω

DYNAMIC CHARACTERISTICS

Symbol	Ratings		Test Condition(s)	Min	Typ	Max	Unit
C _{ISS}	Input Capacitance		V _{GS} = 0 V, V _{DS} = -25 V f= 1MHz	-	3200	-	pF
C _{OSS}	Output Capacitance			-	800	-	
C _{RSS}	Reverse transfer Capacitance			-	175	-	
t _(on)	Turn-on Time		V _{DD} = -25 V V _{GS} = -10 V I _D = 15 A R _L = 1.67 Ω R _{GS} = 6.25 Ω	-	-	80	ns
t _{d(on)}	Turn-on Delay Time			-	15	-	
t _r	Rise time			-	23	-	
t _{d (off)}	Turn-off Delay Time			-	28	-	
t _(off)	Turn-off Time			-	-	100	
t _f	Fall Time			-	18	-	
Q _{g(TOT)}	Total Gate Charge	V _{GS} = 0 to -20 V	V _{DD} = -40V I _D = 30 A R _L = 1.33Ω I _{G(REF)} =1.6mA	-	140	170	nC
Q _{g(-10)}	Gate Charge at -10V	V _{GS} = 0 to -10 V		-	70	85	
Q _{g(TH)}	Threshold Gate Charge	V _{GS} = 0 to -2 V		-	5.5	6.6	

RFP30P05

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Thermal Resistance, Junction to Case	<1.25	°C/W
R_{thJA}	Thermal Resistance, Junction to Ambient	<62	

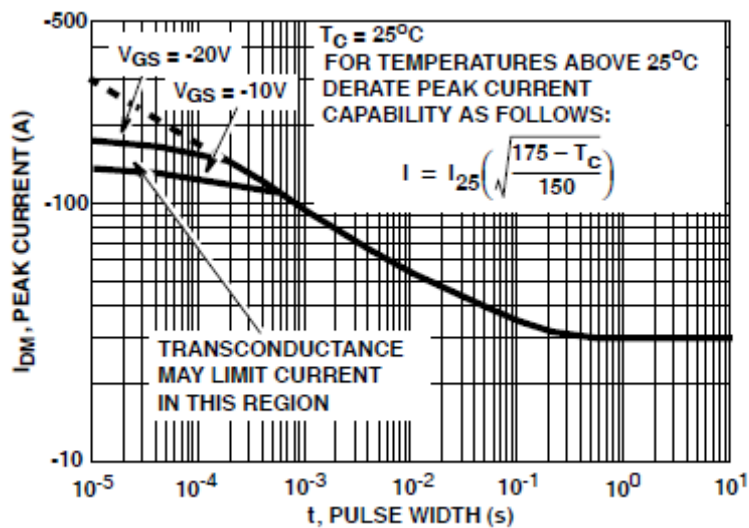
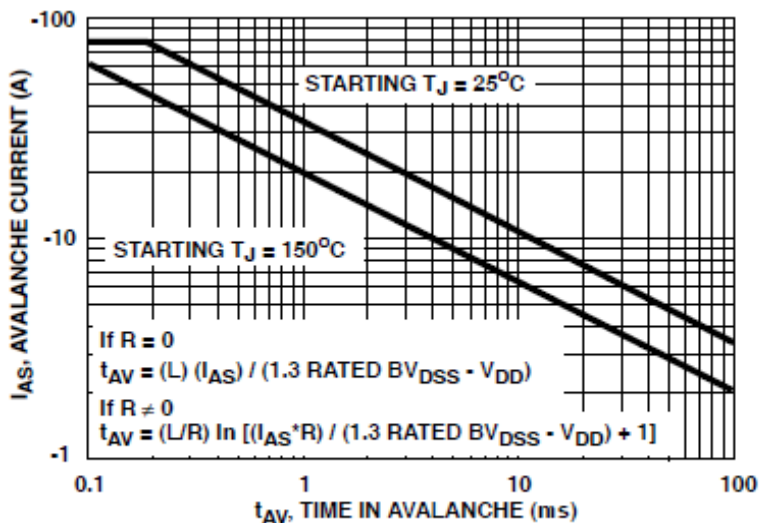


FIGURE 1: PEAK CURRENT CAPABILITY



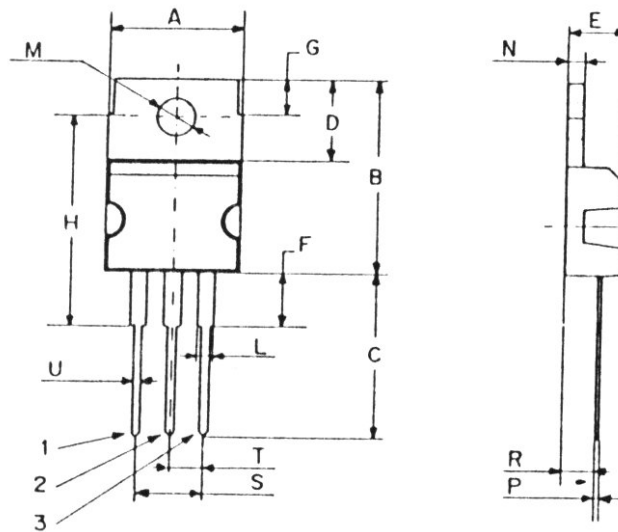
NOTE: Refer to Intersil Application Notes AN9321 and AN9322.

FIGURE 2: UNCLAMPED INDUCTIVE SWITCHING CAPABILITY

RFP30P05

MECHANICAL DATA CASE TO-220

DIMENSIONS (mm)		
	Min.	Max.
A	9,90	10,30
B	15,65	15,90
C	13,20	13,40
D	6,45	6,65
E	4,30	4,50
F	2,70	3,15
G	2,60	3,00
H	15,75	17,15
L	1,15	1,40
M	3,50	3,70
N	-	1,37
P	0,46	0,55
R	2,50	2,70
S	4,98	5,08
T	2.49	2.54
U	0,70	0,90



Pin 1 :	Gate
Pin 2 :	Drain
Pin 3 :	Source

Revised november 2014

Information furnished is believed to be accurate and reliable. However, Comset Semiconductors assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may results from its use. Data are subject to change without notice. Comset Semiconductors makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Comset Semiconductors assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Comset Semiconductors' products are not authorized for use as critical components in life support devices or systems.