Logic Level MOSFETs

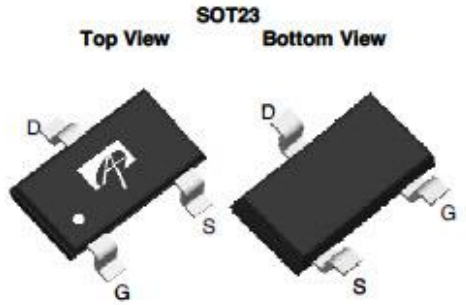
EE must confirm component ratings in the ‘Original Data Sheets’

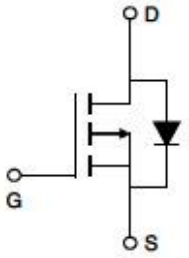
AO3401

ALPHA & OMEGA SEMICONDUCTOR

AO3401

30V P-Channel MOSFET





Absolute Maximum Ratings T_A=25°C unless otherwise noted

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±12	V
Continuous Drain Current	T_A=25°C	I_D	-4	A
	T_A=70°C		-3.2	
Pulsed Drain Current [C]		I_{DM}	-27	
Power Dissipation [B]	T_A=25°C	P_D	1.4	W
	T_A=70°C		0.9	

$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-10V, I_D=-4.0A		41	50	mΩ
			T_J=125°C	62	75	
		V_{GS}=-4.5V, I_D=-3.7A		47	60	mΩ
		V_{GS}=-2.5V, I_D=-2A		60	85	mΩ

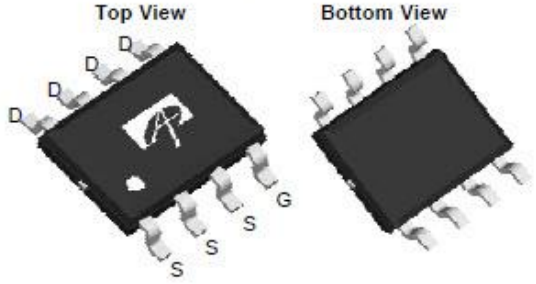
AO4409

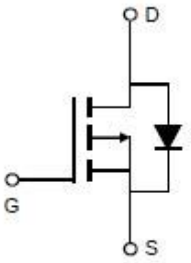
ALPHA & OMEGA SEMICONDUCTOR

AO4409

30V P-Channel MOSFET

SOIC-8





Absolute Maximum Ratings T_A=25°C unless otherwise noted

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_A=25°C	I_D	-15	A
	T_A=70°C		-12.8	

$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-10V, I_D=-15A			6.2	7.5	mΩ
			T_J=125°C		8.2	11.5	
		V_{GS}=-4.5V, I_D=-10A			9.5	12	mΩ

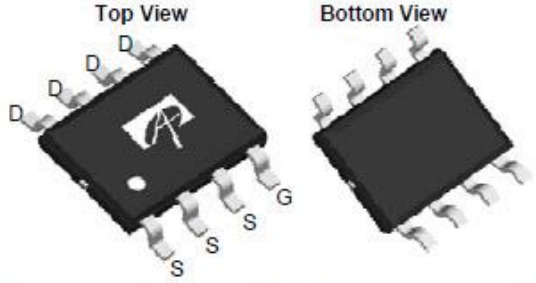
AO4419

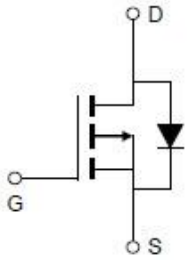
ALPHA & OMEGA SEMICONDUCTOR

AO4419

30V P-Channel MOSFET

SOIC-8





Absolute Maximum Ratings T_A=25°C unless otherwise noted

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_A=25°C	I_D	-9.7	A
	T_A=70°C		-7.8	

$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-10V, I_D=-9.7A		16.5	20	mΩ
		T_J=125°C		24	29	
		V_{GS}=-4.5V, I_D=-7A		26	35	mΩ

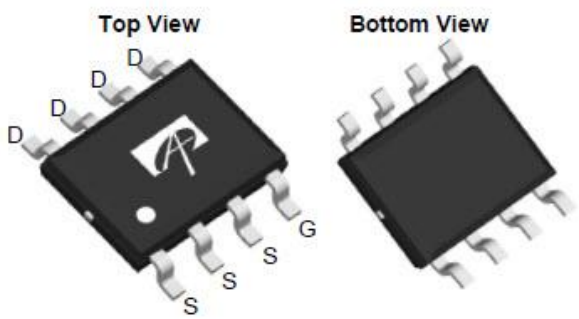
AO4484

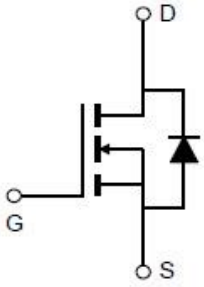
ALPHA & OMEGA SEMICONDUCTOR

AO4484

40V N-Channel MOSFET

SOIC-8





Absolute Maximum Ratings T_J=25°C unless otherwise noted

Parameter		Symbol	10 Sec	Steady State	Units
Drain-Source Voltage		V_{DS}	40		V
Gate-Source Voltage		V_{GS}	±20		V
Continuous Drain Current [A]	T_A=25°C	I_D	13.5	10	A
	T_A=70°C		10.8	8	

$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS} = 10V, I_D = 10A		8.2	10	mΩ
			T_J=125°C	12.5	16	
		V_{GS} = 4.5V, I_D = 8A		10	12.5	

AOD514

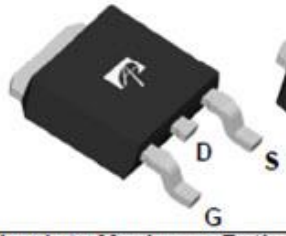
ALPHA & OMEGA SEMICONDUCTOR

AOD514/AOI514/AOY514

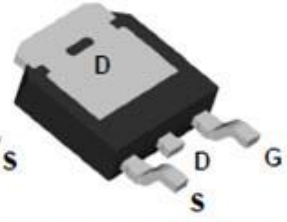
30V N-Channel AlphaMOS

TO252 DPAK: AOD514

TopView

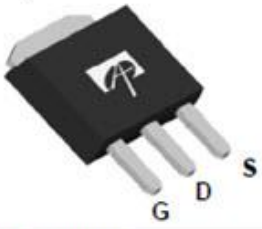


Bottom View

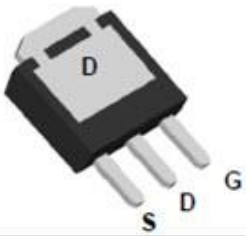


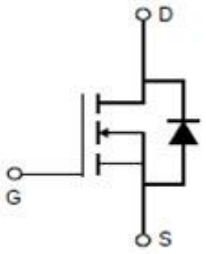
TO251A IPAK: AOI514
TO251B (IPAK short lead): AOY514

Top View



Bottom View





Absolute Maximum Ratings T_A=25°C unless otherwise noted

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current [G]	T_C=25°C	I_D	46	A
	T_C=100°C		36	

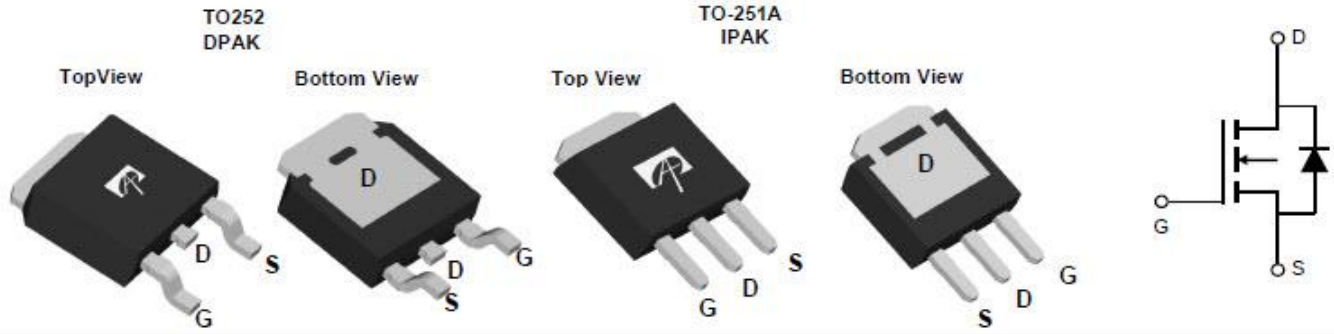
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V, I_D=20A			4.3	5.9	mΩ
			T_J=125°C		5.4	7.5	
		V_{GS}=4.5V, I_D=20A			8.5	11.9	mΩ

AOD4184

ALPHA & OMEGA SEMICONDUCTOR

AOD4184/AOI4184

40V N-Channel MOSFET



Absolute Maximum Ratings T_A=25°C unless otherwise noted

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	40	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current [G]	T_C=25°C	I_D	50	A
	T_C=100°C		40	

$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V, I_D=20A		6.7	8	mΩ
			T_J=125°C	11	13	
		V_{GS}=4.5V, I_D=15A		8.5	11	mΩ

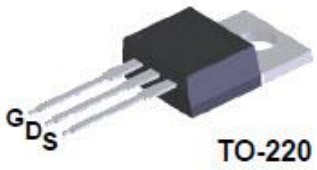
FQP30N06L

FAIRCHILD
SEMICONDUCTOR®

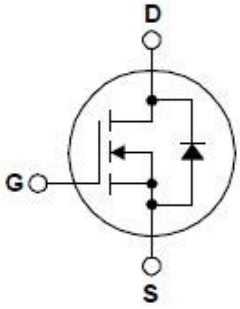
FQP30N06L

N-Channel QFET® MOSFET

60 V, 32 A, 35 mΩ



TO-220



Absolute Maximum Ratings

T_C = 25°C unless otherwise noted.

Symbol	Parameter	FQP30N06L	Unit
V_{DSS}	Drain-Source Voltage	60	V
I_D	Drain Current - Continuous (T_C = 25°C)	32	A
	- Continuous (T_C = 100°C)	22.6	A

$R_{DS(on)}$	Static Drain-Source On-Resistance	V_{GS} = 10 V, I_D = 16 A	--	0.027	0.035	Ω
		V_{GS} = 5 V, I_D = 16 A	--	0.035	0.045	

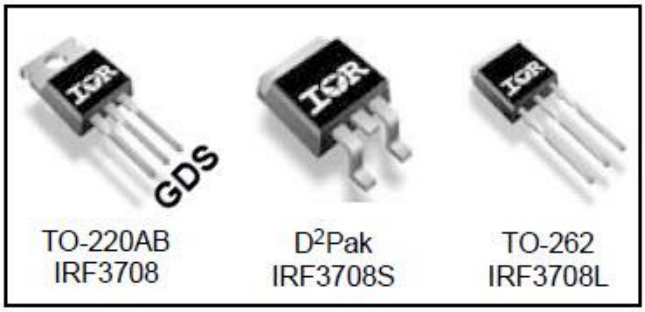
IRF3708

International
IOR Rectifier

PD - 93938B

IRF3708
IRF3708S
IRF3708L

SMPS MOSFET



TO-220AB
IRF3708

D^2Pak
IRF3708S

TO-262
IRF3708L

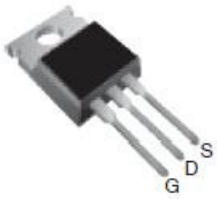
Absolute Maximum Ratings

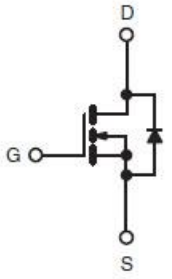
Symbol	Parameter	Max.	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-to-Source Voltage	±12	V
I_D @ T_C = 25°C	Continuous Drain Current, V_{GS} @ 10V	62	A
I_D @ T_C = 70°C	Continuous Drain Current, V_{GS} @ 10V	52	

$R_{DS(on)}$	Static Drain-to-Source On-Resistance	—	8	12.0	mΩ	V_{GS} = 10V, I_D = 15A ③
		—	9.5	13.5		V_{GS} = 4.5V, I_D = 12A ③
		—	14.5	29		V_{GS} = 2.8V, I_D = 7.5A ③

IRL540

TO-220AB





N-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T_C = 25 °C, unless otherwise noted)					
PARAMETER			**SYMBOL**	**LIMIT**	**UNIT**
Drain-Source Voltage			V_{DS}	100	V
Gate-Source Voltage			V_{GS}	± 10	
Continuous Drain Current	V_{GS} at 5.0 V	T_C = 25 °C	I_D	28	A
		T_C = 100 °C		20	

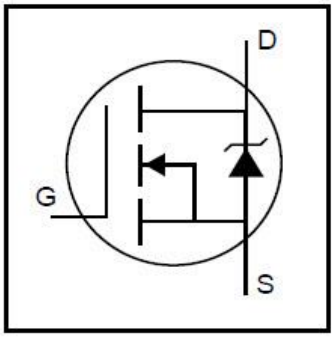
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} = 5.0 V	I_D = 17 A[b]	-	-	0.077	Ω
		V_{GS} = 4.0 V	I_D = 14 A[b]	-	-	0.11	

IRL3705N

International
IOR Rectifier

PD - 9.1370C

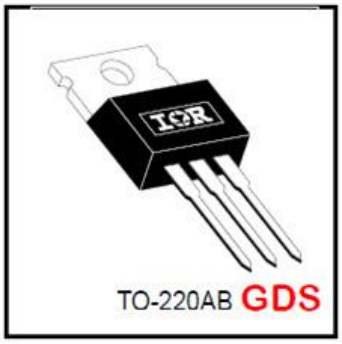
IRL3705N



V_{DSS} = 55V

$R_{DS(on)}$ = 0.01Ω

I_D = 89A⑤



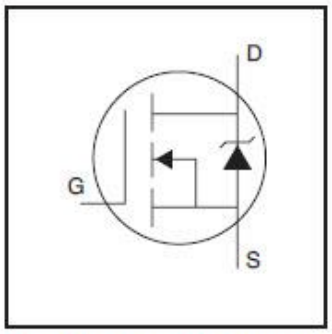
$R_{DS(on)}$	Static Drain-to-Source On-Resistance	—	—	0.010	Ω	V_{GS} = 10V, I_D = 46A ④
		—	—	0.012		V_{GS} = 5.0V, I_D = 46A ④
		—	—	0.018		V_{GS} = 4.0V, I_D = 39A ④

IRLML2402

International
IOR Rectifier

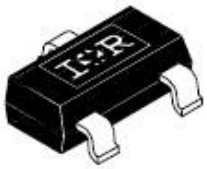
PD - 91257D

IRLML2402



V_{DSS} = 20V

$R_{DS(on)}$ = 0.25Ω



Micro3

Absolute Maximum Ratings

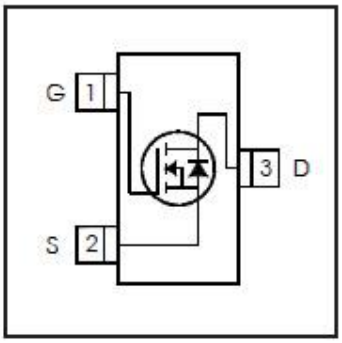
	Parameter	Max.	Units
I_D @ T_A = 25°C	Continuous Drain Current, V_{GS} @ 4.5V	1.2	A
I_D @ T_A = 70°C	Continuous Drain Current, V_{GS} @ 4.5V	0.95	

$R_{DS(on)}$	Static Drain-to-Source On-Resistance	—	—	0.25	Ω	V_{GS} = 4.5V, I_D = 0.93A ③
		—	—	0.35		V_{GS} = 2.7V, I_D = 0.47A ③

IRLML2502

International
IOR Rectifier

IRLML2502



V_{DSS} = 20V

$R_{DS(on)}$ = 0.045Ω

Absolute Maximum Ratings

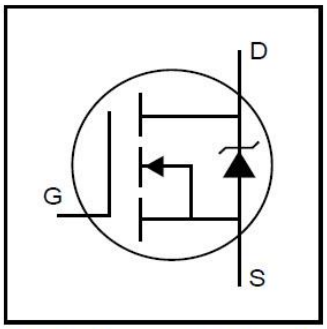
	Parameter	Max.	Units
V_{DS}	Drain- Source Voltage	20	V
I_D @ T_A = 25°C	Continuous Drain Current, V_{GS} @ 4.5V	4.2	A
I_D @ T_A= 70°C	Continuous Drain Current, V_{GS} @ 4.5V	3.4	

$R_{DS(on)}$	Static Drain-to-Source On-Resistance	—	0.035	0.045	Ω	V_{GS} = 4.5V, I_D = 4.2A ②
		—	0.050	0.080		V_{GS} = 2.5V, I_D = 3.6A ②

IRLZ44N

International
IOR Rectifier

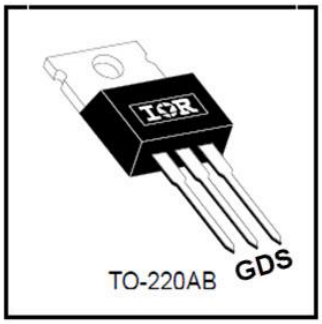
IRLZ44N



V_{DSS} = 55V

$R_{DS(on)}$ = 0.022Ω

I_D = 47A



Absolute Maximum Ratings

	Parameter	Max.	Units
I_D @ T_C = 25°C	Continuous Drain Current, V_{GS} @ 10V	47	A
I_D @ T_C = 100°C	Continuous Drain Current, V_{GS} @ 10V	33	

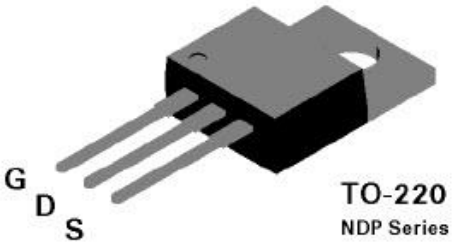
$R_{DS(on)}$	Static Drain-to-Source On-Resistance	—	—	0.022	Ω	V_{GS} = 10V, I_D = 25A ④
		—	—	0.025		V_{GS} = 5.0V, I_D = 25A ④
		—	—	0.035		V_{GS} = 4.0V, I_D = 21A ④

NDP6020P

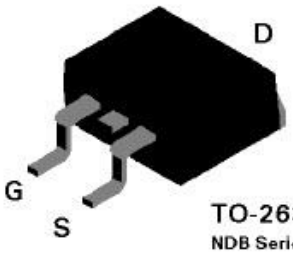
FAIRCHILD SEMICONDUCTOR™

September 1997

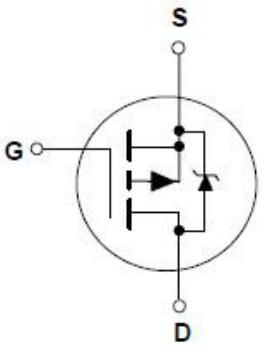
NDP6020P / NDB6020P
P-Channel Logic Level Enhancement Mode Field Effect Transistor



TO-220
NDP Series



TO-263AB
NDB Series



Absolute Maximum Ratings T_c = 25°C unless otherwise noted

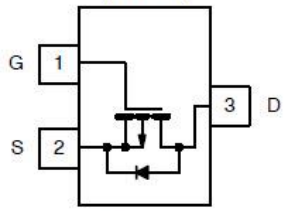
Symbol	Parameter	NDP6020P	NDB6020P	Units
V_{DSS}	Drain-Source Voltage	-20		V
V_{GSS}	Gate-Source Voltage - Continuous	±8		V
I_D	Drain Current - Continuous	-24		A

$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS} = -4.5 V, I_D = -12 A			0.041	0.05	Ω
			T_J = 125°C		0.06	0.08	
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS} = -2.7 V, I_D = -10 A			0.059	0.07	
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS} = -2.5 V, I_D = -10 A			0.064	0.075	

Si2301

P-Channel 1.25-W, 2.5-V MOSFET

TO-236
(SOT-23)



Top View

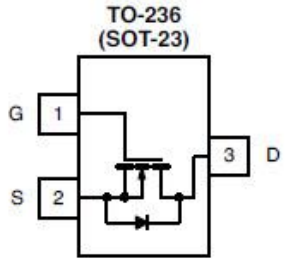
ABSOLUTE MAXIMUM RATINGS (T_A = 25°C UNLESS OTHERWISE NOTED)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±8	
Continuous Drain Current (T_J = 150°C)[b]	T_A= 25°C	I_D	-2.3	A
	T_A= 70°C		-1.5	

Drain-Source On-Resistance[a]	$r_{DS(on)}$	V_{GS} = -4.5 V, I_D = -2.8 A		0.105	0.130	Ω
		V_{GS} = -2.5 V, I_D = -2.0 A		0.145	0.190	

Si2302

N-Channel 1.25-W, 2.5-V MOSFET



Top View

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C UNLESS OTHERWISE NOTED)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	± 8	
Continuous Drain Current (T_J = 150°C)[b]	T_A = 25°C	I_D	2.8	A
	T_A = 70°C		2.2	

Drain-Source On-Resistance[a]	$r_{DS(on)}$	V_{GS} = 4.5 V, I_D = 3.6 A		0.07	0.085	Ω
		V_{GS} = 2.5 V, I_D = 3.1 A		0.085	0.115	

RFP30N06LE

FAIRCHILD SEMICONDUCTOR®

RFP30N06LE, RF1S30N06LESM

Data Sheet **January 2004**

30A, 60V, ESD Rated, 0.047 Ohm, Logic Level N-Channel Power MOSFETs

These are N-Channel power MOSFETs manufactured using the MegaFET process. This process, which uses feature sizes approaching those of LSI integrated 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.

These transistors incorporate ESD protection and are designed to withstand 2kV (Human Body Model) of ESD.

Formerly developmental type TA49027.

Features

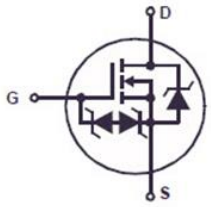
- 30A, 60V
- $r_{DS(ON)} = 0.047\Omega$
- 2kV ESD Protected
- Temperature Compensating PSPICE® Model
- Peak Current vs Pulse Width Curve
- UIS Rating Curve
- Related Literature
  - TB334 "Guidelines for Soldering Surface Mount Components to PC Boards"

Ordering Information

PART NUMBER	PACKAGE	BRAND
RFP30N06LE	TO-220AB	P30N06LE
RF1S30N06LESM	TO-263AB	1S30N06L

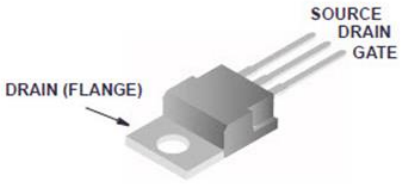
NOTE: When ordering use the entire part number. Add suffix, 9A, to obtain the TO-263 variant in tape and reel i.e. RF1S30N06LESM9A.

Symbol

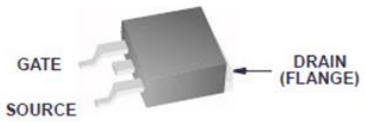


Packaging

JEDEC TO-220AB



JEDEC TO-263AB



RFP30N06LE, RF1S30N06LESM

Absolute Maximum Ratings $T_A = 25^oC$, Unless Otherwise Specified

		RFP30N06LE, RF1S30N06LESM	UNITS
Drain to Source Voltage (Note 1)	V_{DSS}	60	V
Drain to Gate Voltage (R_{GS} = 20kΩ) (Note 1)	V_{DGR}	60	V
Gate to Source Voltage	V_{GS}	+10, -8	V
Continuous Drain Current	I_D	30	A
Pulsed Drain Current (Note 3)	I_{DM}	Refer to Peak Current Curve	
Pulsed Avalanche Rating	E_{AS}	Refer to UIS Curve	
Power Dissipation	P_D	96	W

Drain to Source On Resistance (Note 2)	$r_{DS(ON)}$	I_D = 30A, V_{GS} = 5V, Figure 9	-	-	0.047	Ω