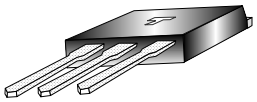
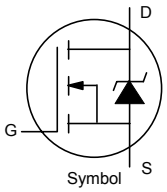
Transys Electronics LIMITED

IRF840LCS/LCL

Power MOSFET

V_{DSS} = 500V, $R_{DS(on)}$ = 0.85 ohm, I_D = 8.0 A





Symbol

N Channel

ELECTRICAL CHARACTERISICS at Tj = 25°C Maximum. Unless stated Otherwise						
Parameter	Symbol	Test Conditions	Value			Unit
			Min	Typ	Max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V_{DC}, I_D = 250µA	500	-	-	Volt
Drain to Source Leakage Current	I_{DSS}	V_{DS} = 500V_{DC}, V_{GS} = 0V_{DC}	-	-	25	µA
		V_{DS} = 400V_{DC}, V_{GS} = 0V_{DC} Tj=125 °C	-	-	250	µA
Gate to Source Leakage Current	I_{GSS}	V_{GS} = +20V_{DC}	-	-	100	nA
		V_{GS} = -20V_{DC}	-	-	-100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250µA	2.0	-	4.0	Volt
Static Drain to Source On - Resistance	$R_{DS(on)}$	V_{GS}= 10V_{DC}, I_D = 4.8A	-	-	0.85	Ω
Gate Charge	Q_G	I_D = 8.0A V_{DS} = 400V_{DC}, V_{GS} = 10V_{DC}	-	-	39	nC
Gate to Source Charge	Q_{GS}		-	-	10	nC
Gate to Drain Charge	Q_{GD}		-	-	19	nC
Input Capacitance	C_{ISS}	V_{DS} = 25V_{DC}, V_{GS}= 0V_{DC}, f = 1.0MHZ	-	1100	-	pF
Output Capacitance	C_{OSS}		-	170	-	pF
Transfer Capacitance	C_{RSS}		-	18	-	pF
Turn On Delay Time	td(on)	V_{DD} = 250V_{DC}, I_D = 8.0A, R_G = 9.1Ω R_D = 31Ω	-	12	-	nS
Turn Off Delay Time	td(off)		-	27	-	nS
Rise Time	tr		-	25	-	nS
Fall Time	tf		-	19	-	nS
Continuous Source Current	I_S		-	-	8.0	A
Pulsed Source Current	I_{SM}		-	-	28	A
Forward Voltage (Diode)	V_{SD}	V_{GS} = 0V_{DC}, I_S =8.0A, Tp = 300µS	-	-	2.0	V
Single Pulse Avalanche Energy	E_{AS}				510	mj

MAXIMUM RATINGS (Tj = 25°C unless stated otherwise)				
Parameter	Symbol	Condition	Value	Unit
Gate to Source Voltage	V_{GS}		+/- 30V	Volt
Drain to Source Voltage	V_{DSS}		500	Volt
Continuous Drain Current	I_D		8.0	Amp
Pulsed Drain Current	I_{DM}	_	28	Amp
Total Power Dissapation	P_D	(T_A = 25 C)	125	W
Thermal Resistance (Junction to Ambient)	$R_{TH\ (J-A)}$		40	°C/W

Maximum Operating Temperature Range (Tj) -55 to +150° C
Maximum Storage Temperature Range (Tstg) -55 to +150° C

Transys Electronics LIMITED

IRF840AS/AL

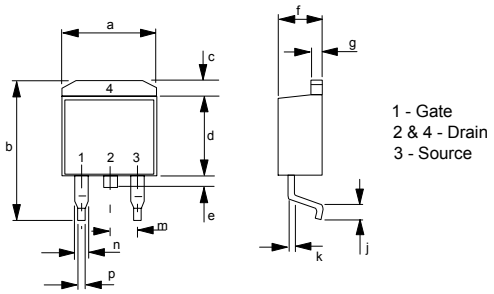
Power MOSFET

V_{DSS} = 500V, $R_{DS(on)}$ = 0.85 ohm, I_D = 8.0 A

Mechanical Dimensions

Case SMB 220 Plastic

DIMENSIONS				
	Millimetres		Inches	
Dim	Min	Max	Min	Max
a	9.85	10.67	0.380	0.420
b	14.61	15.88	0.575	0.625
c		1.65		0.065
d	8.51	9.65	0.335	0.380
e	1.27	1.78	0.050	0.070
f	4.08	4.83	0.180	0.190
g	1.14	1.40	0.045	0.055
h	1.15	1.400	0.045	0.055
j	1.78	2.79	0.070	0.110
k	0.38	0.77	0.015	0.029
m	2.54 Pitch		0.10 Pitch	
n	0.51	0.99	0.020	0.038
p	0.51	0.89	0.020	0.35

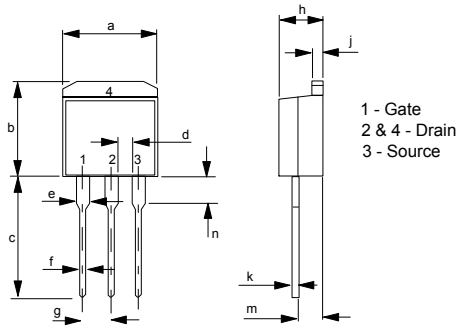


1 - Gate
2 & 4 - Drain
3 - Source

Mechanical Dimensions

Case TO262 Plastic

DIMENSIONS				
	Millimetres		Inches	
Dim	Min	Max	Min	Max
a	10.29	10.54	0.405	0.415
b	9.91	10.54	0.390	0.415
c	13.47	14.09	0.530	0.555
d	1.15		0.045	
e	1.15	1.40	0.045	0.055
f	0.69	0.93	0.027	0.037
g	2.54 Pitch		0.10 Pitch	
h	4.20	4.69	0.165	0.185
j	1.22	1.32	0.048	0.052
k	0.46	0.55	0.018	0.022
m	2.64	2.92	0.104	0.115
n	3.55	4.06	0.140	0.160



1 - Gate
2 & 4 - Drain
3 - Source