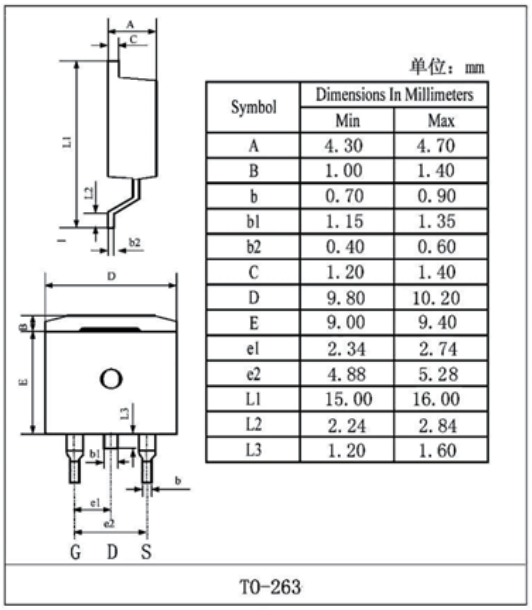
N-Channel Power MOSFET (60V/50A)

Purpose

Suited for low voltage applications such as automotive,
DC/DC Converters, and high efficiency switching
for power management in portable and battery operated products



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.30	4.70
B	1.00	1.40
b	0.70	0.90
b1	1.15	1.35
b2	0.40	0.60
C	1.20	1.40
D	9.80	10.20
E	9.00	9.40
e1	2.34	2.74
e2	4.88	5.28
L1	15.00	16.00
L2	2.24	2.84
L3	1.20	1.60

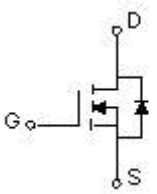
TO-263

Feature

Low $R_{DS(on)}$, low gate charge, low C_{rss}, fast switching.

Absolute maximum ratings(Ta=25℃)

Symbol	Rating	Unit
V_{DSS}	60	V
I_D(Tc=25℃)	50	A
I_D(Tc=100℃)	35.4	A
I_{DM}	200	A
V_{GS}	±20	V
E_{AS}	490	mJ
E_{AR}	12	mJ
P_D(Tc=25℃)	120	W
T_j	150	℃
T_{stg}	-55～150	℃



Electrical Characteristics(Ta=25℃)

Symbol	Test Conditions	Min	Typ	Max	Unit
BV_{DSS}	V_{GS}=0V I_D=250μA	60			V
I_{DSS}	V_{DS}=60V V_{GS}=0V			1.0	uA
	V_{DS}=48V T_C=150℃			10	
I_{GSS}	V_{GS}=±20V V_{DS}=0V			±0.1	μA
$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	2		4	V
Qg	V_{DS}=48V I_D=50A V_{GS}=10V		32	42	nC
$R_{DS(on)}$	V_{GS}=10V I_D=25A		0.018	0.022	Ω
V_{SD}	V_{GS}=0V I_S=50A			1.5	V
C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		1050	1365	pF
C_{oss}			460	600	
C_{rss}			70	90	
$t_{d(on)}$	V_{DD}=30V I_D=25A R_G=25Ω		20	50	ns
t_r			100	210	
$t_{d(off)}$			80	170	
t_f			85	180	

Typical Electrical and Thermal Characteristics (Curves)