

自主封測 品質把控 售後保障

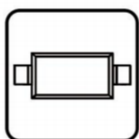
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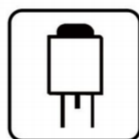
電源管理



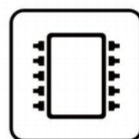
顯示驅動



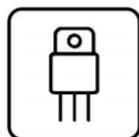
二三極管



LDO穩壓器



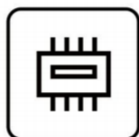
觸摸芯片



MOS管



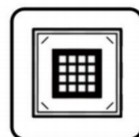
運算放大器



存儲芯片



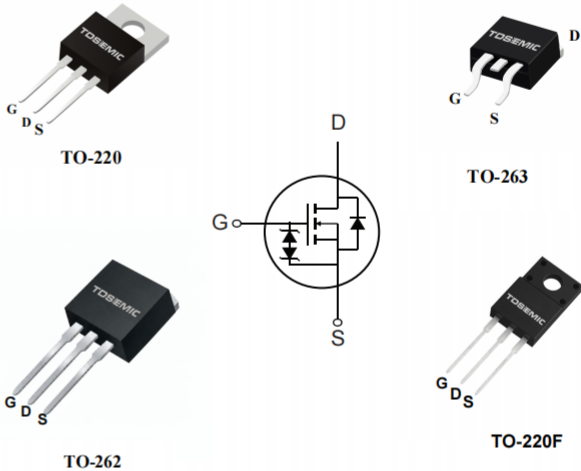
MCU



串口通信

TD60R180

產品規格說明書

General Description	Applications			
The TD60R180 is power MOSFET using Cmos’s advanced super junction technology that can realize very low on resistance,gate charge and reduced tendency for ringing.As a result, its switching loss is very low,makin g it optimized for switching applications.Moreov er,these user friendly devices offer the advanta ges of improved ruggedness and remarkable ESD capability by integrated Zener diode	<ul style="list-style-type: none">● Adapter● PFC power supply stages● DC-DC converters			
	<div>TO-220/263/262/220F Pin Configuration</div> <div></div>			
Features				
<ul style="list-style-type: none">● Multi-layer Epitaxial Chip Technology● Low On-Resistance● 100% avalanche tested● RoHS Compliant				
Absolute Maximum Ratings				
Symbol	Parameter	220/263/262	220F	Units
V _{DS}	Drain-Source Voltage	600		V
V _{GS}	Gate-Source Voltage	±25		V
I _D @T _C =25℃	Continuous Drain Current	20	20*	A
I _D @T _C =100℃	Continuous Drain Current	14	14*	A
I _{DM}	Pulsed Drain Current	80	80*	A
EAS	Single Pulse Avalanche Energy (Note 1)	320		mJ
P _D @T _C =25℃	Total Power Dissipation	200	40	W
T _{STG}	Storage Temperature Range	-55 to 150		℃
T _J	Operating Junction Temperature Range	150		℃

* Drain current limited by maximum junction temperature.

Thermal Data

Symbol	Parameter	220/263/262	220F	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient Max.	65	65	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case Max.	0.63	3.13	°C/W

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	600	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=10A$	---	155	180	m Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2.5	---	4.5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=600V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 25V$, $V_{DS}=0V$	---	---	± 10	μA
g_{fs}	Forward Transconductance	$V_{DS}=15V$, $I_D=10A$	---	13	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	10	---	Ω
Q_g	Total Gate Charge	$I_D=5.6A$	---	32.5	---	nC
Q_{gs}	Gate-Source Charge	$V_{DD}=400V$	---	7	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	14.1	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=300V$ $V_{GS}=10V$ $R_G=25\Omega$, $I_D=18A$	---	29	---	ns
T_r	Rise Time		---	62	---	
$T_{d(off)}$	Turn-Off Delay Time		---	104	---	
T_f	Fall Time		---	32	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	1400	---	pF
C_{oss}	Output Capacitance		---	180	---	
C_{rss}	Reverse Transfer Capacitance		---	2	---	

Diode Characteristics

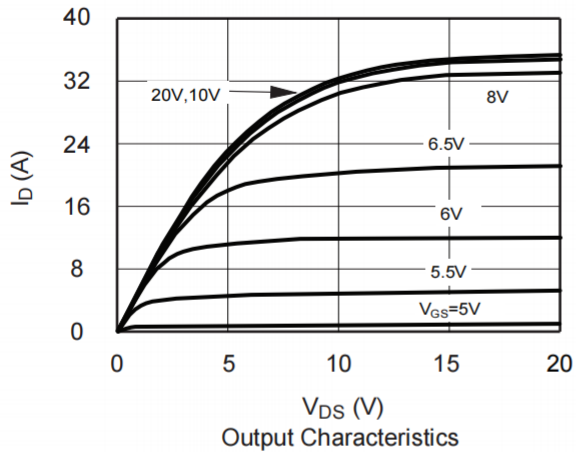
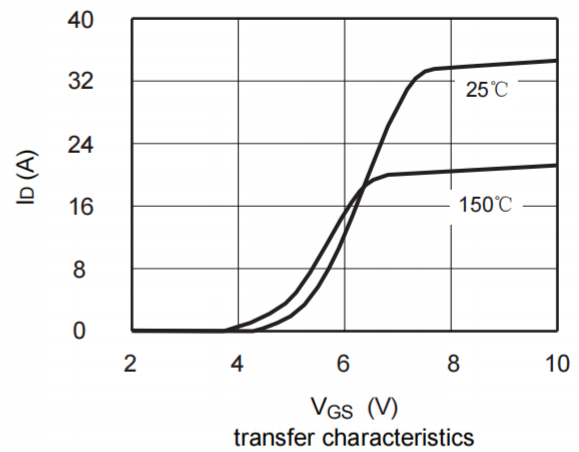
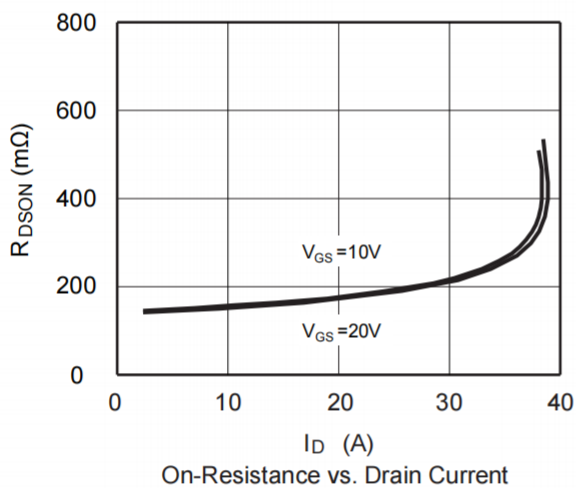
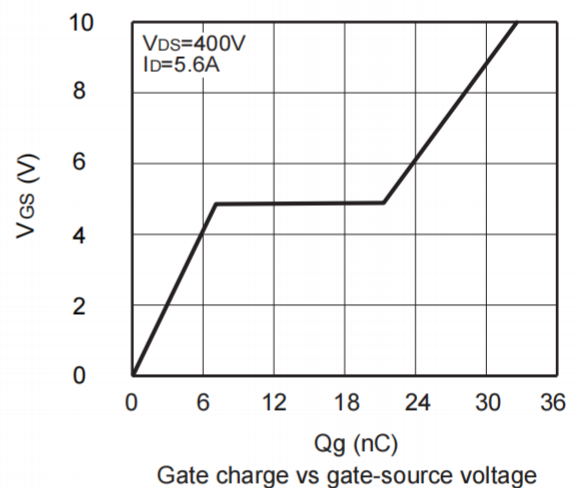
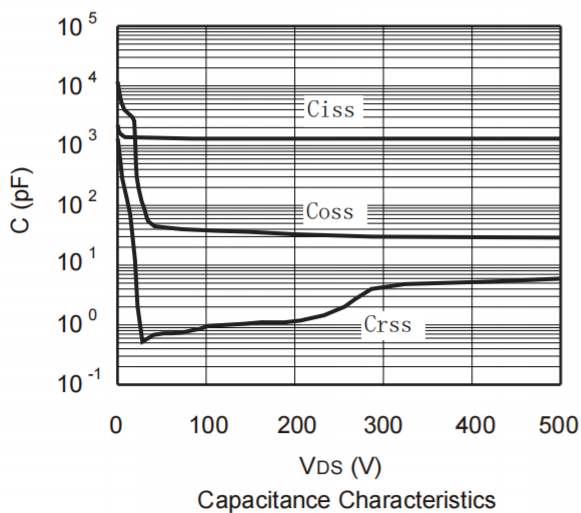
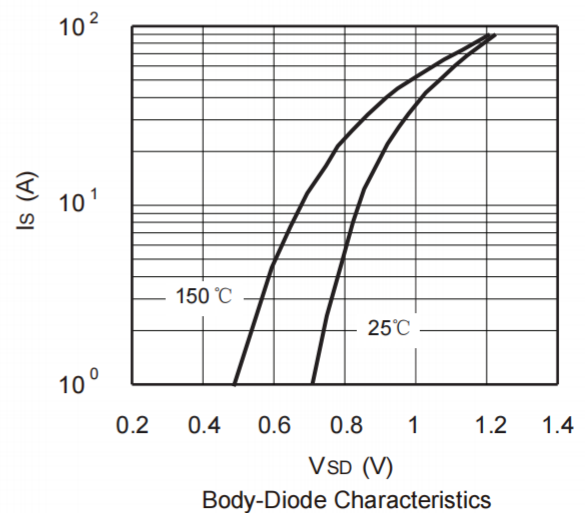
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	20	A
I_{SM}	Pulsed Source Current		---	---	80	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=20A$, $T_J=25^{\circ}\text{C}$	---	0.9	1.4	V
t_{rr}	Reverse Recovery Time	$di/dt = 100A/\mu s$	---	234	---	ns
Q_{rr}	Reverse Recovery Charge	$V_{DD}=400V$, $I_{SD}=5.6A$	---	2.2	---	μC

Note :

1. The EAS data shows Max. rating .The test condition is $V_{DS}=100V$, $V_{GS}=10V$, $L=40mH$, $I_{AS}=4A$.

This product has been designed and qualified for the consumer market.
Cmos assumes no liability for customers' product design or applications.

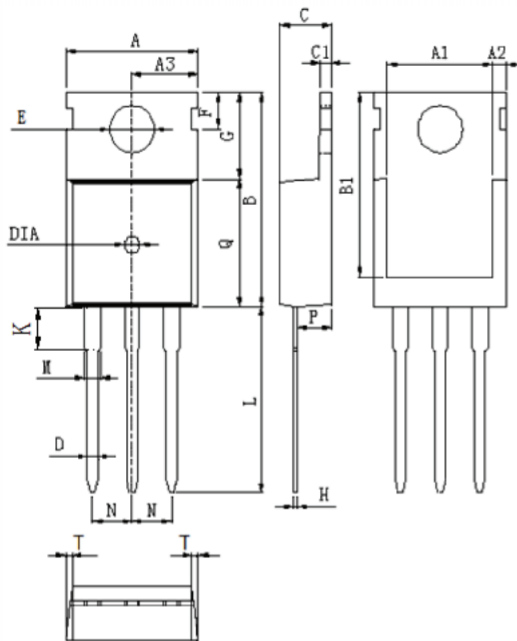
Typical Characteristics



Package Dimension

TO-220

Unit :mm

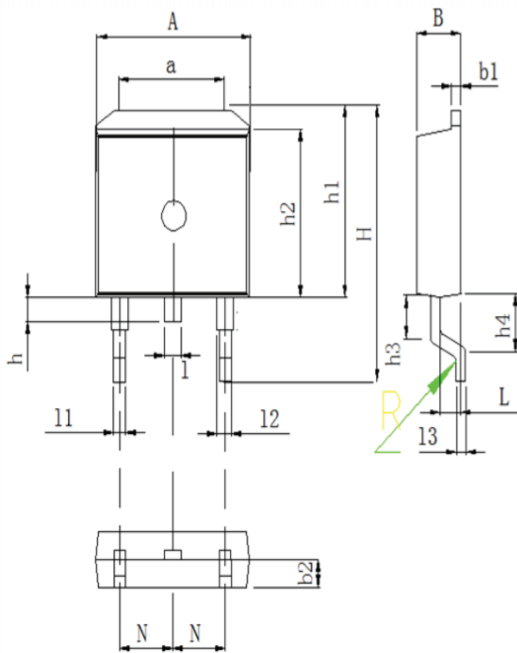


DIM	MILLIMETERS	DIM	MILLIMETERS
A	10.0±0.3	G	6.5±0.3
A1	8.64±0.2	H	0.5±0.1
A2	1.15±0.1	K	3.1±0.2
A3	5.0±0.2	L	13.2±0.4
B	15.8±0.4	M	1.25±0.1
B1	13.2±0.3	N	2.54±0.1
C	4.56±0.1	P	2.4±0.3
C1	1.3±0.2	Q	9.0±0.3
D	0.8±0.2	T	W:0.35
E	3.6±0.2	DIA	⊙1.5(deep 0.2)
F	2.95±0.3		

Package Dimension

TO-263

Unit :mm

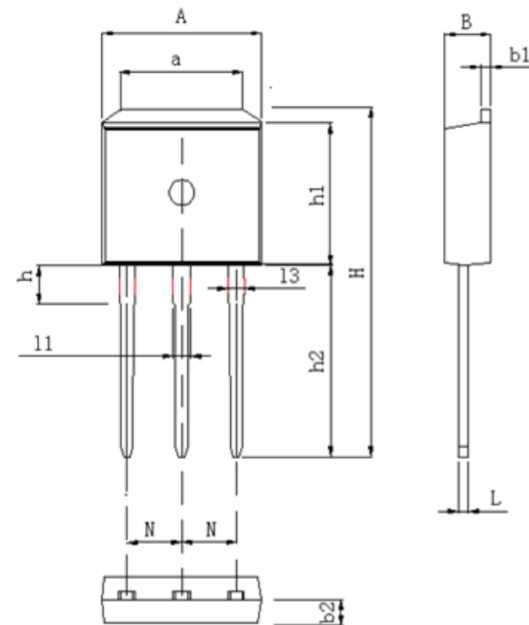


DIM	MILLIMETERS	DIM	MILLIMETERS
A	9.8±0.2	h3	1.54±0.2
a	7.4±0.4	h4	2.7±0.2
B	4.5±0.2	L	2.4±0.2
b1	1.3±0.05	l	1.3±0.1
b2	2.4±0.2	l1	0.8±0.1
H	15.5±0.3	l2	1.3±0.1
h	1.54±0.2	l3	0.5±0.1
h1	10.5±0.2	N	2.54±0.1
h2	9.2±0.1	R	0.5R±0.05

Package Dimension

TO-262

Unit :mm

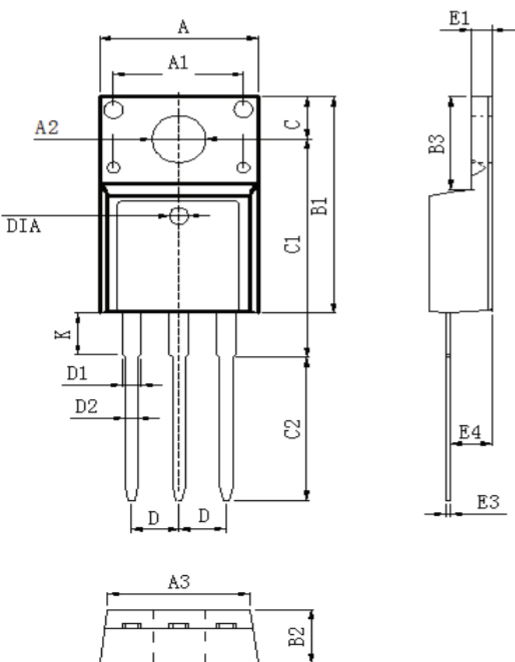


DIM	MILLIMETERS
A	9.98±0.2
a	7.4±0.4
B	4.5±0.2
b1	1.3±0.05
b2	2.4±0.2
H	23.9±0.3
h	3.1±0.2
h1	9.16±0.2
h2	13.2±0.2
L	0.5±0.1
l1	1.3±0.1
l2	0.8±0.1
N	2.45±0.1

Package Dimension

TO-220F

Unit :mm



DIM	MILLIMETERS	DIM	MILLIMETERS
A	10.16±0.3	C2	10.02±0.5
A1	7.00±0.1	D	2.54±0.05
A2	3.3±0.2	D1	1.28±0.2
A3	9.5±0.2	D2	0.8±0.1
B1	15.87±0.3	K	3.1±0.3
B2	4.7±0.2	E1	2.54±0.1
B3	6.68±0.4	E3	0.5±0.1
C	3.3±0.2	E4	2.76±0.2
C1	12.57±0.3	DIA	⊙1.5 (deep 0.2)