

描述 / Descriptions

TO-252 塑封封装 P 沟道 MOS 场效应管。
P-CHANNEL MOSFET in a TO-252 Plastic Package.

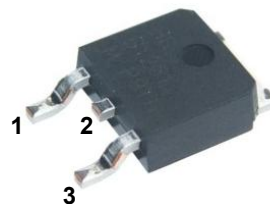
特征 / Features

$V_{DS} = -60V, I_D = -26A, R_{DS(ON)} < 40m\Omega$
 $@ V_{GS} = -10V, R_{DS(ON)} < 55m\Omega @ V_{GS} = -4.5V$
 高功率和电流转移能力，无铅产品，表面贴装封装。
 High Power and current handing capability, Lead free product is acquired, Surface Mount Package.

用途 / Applications

用于 PWM, 负载开关，电源管理。
 PWM applications, Load switch, Power management.

引脚排列 / Pinning

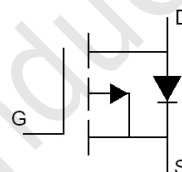


PIN 1 : G

PIN 2 : D

PIN 3 : S

内部等效电路 / Equivalent Circuit



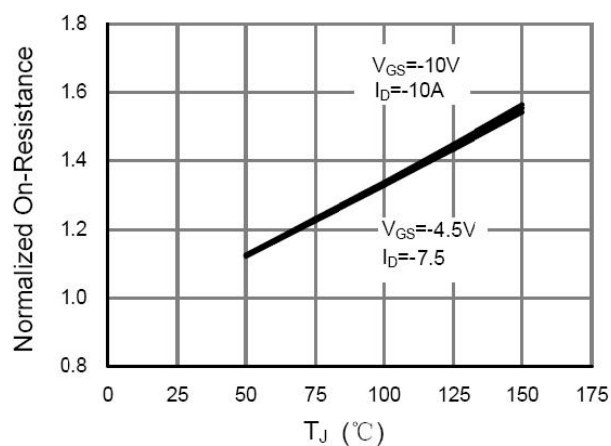
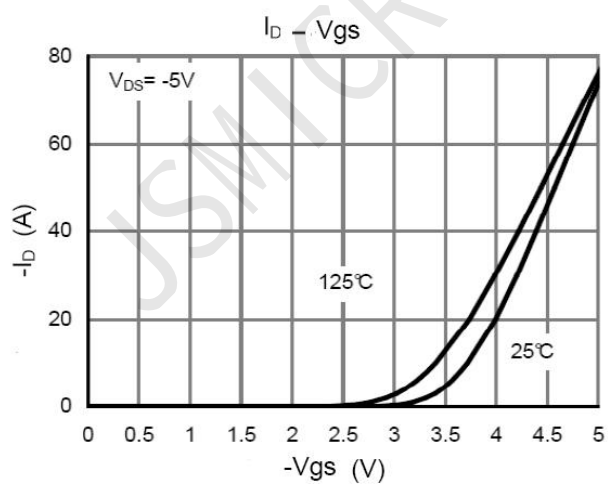
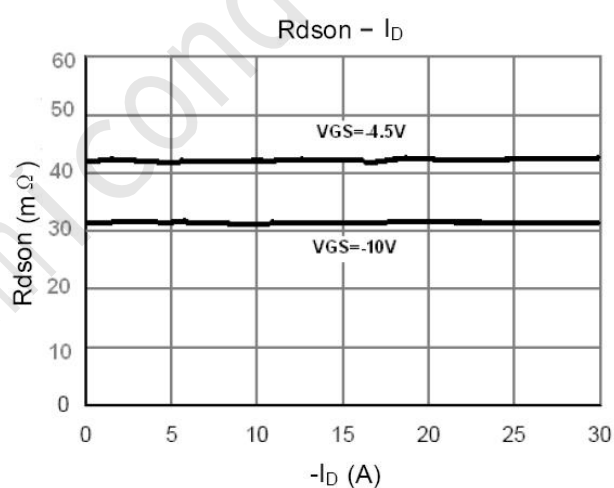
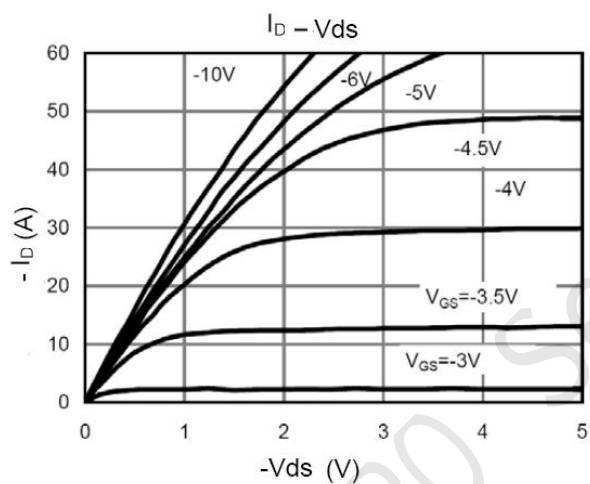
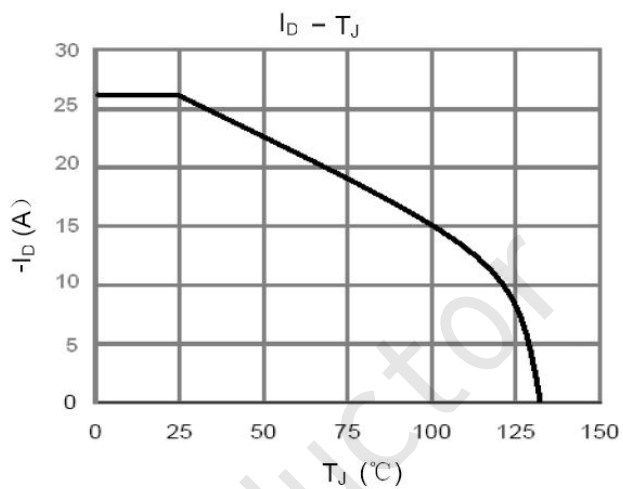
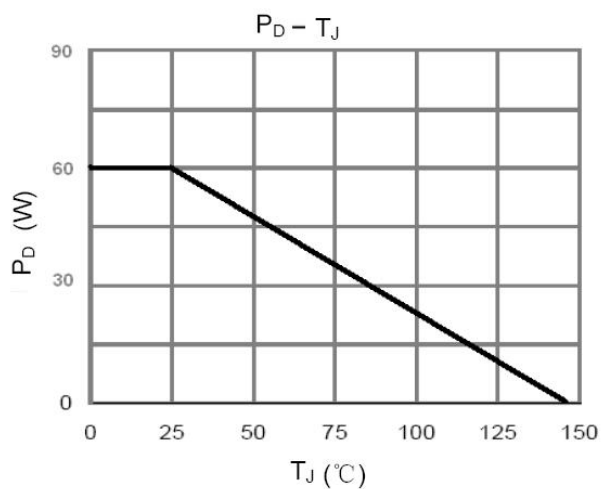
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DS}	-60	V
Drain Current	$I_D(T_c=25^{\circ}C)$	-30	A
Drain Current	$I_D(T_c=70^{\circ}C)$	-20	A
Drain Current - Pulsed	I_{DM}	-60	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	$P_D(T_c=25^{\circ}C)$	60	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 175	$^{\circ}C$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	25	$^{\circ}C/W$

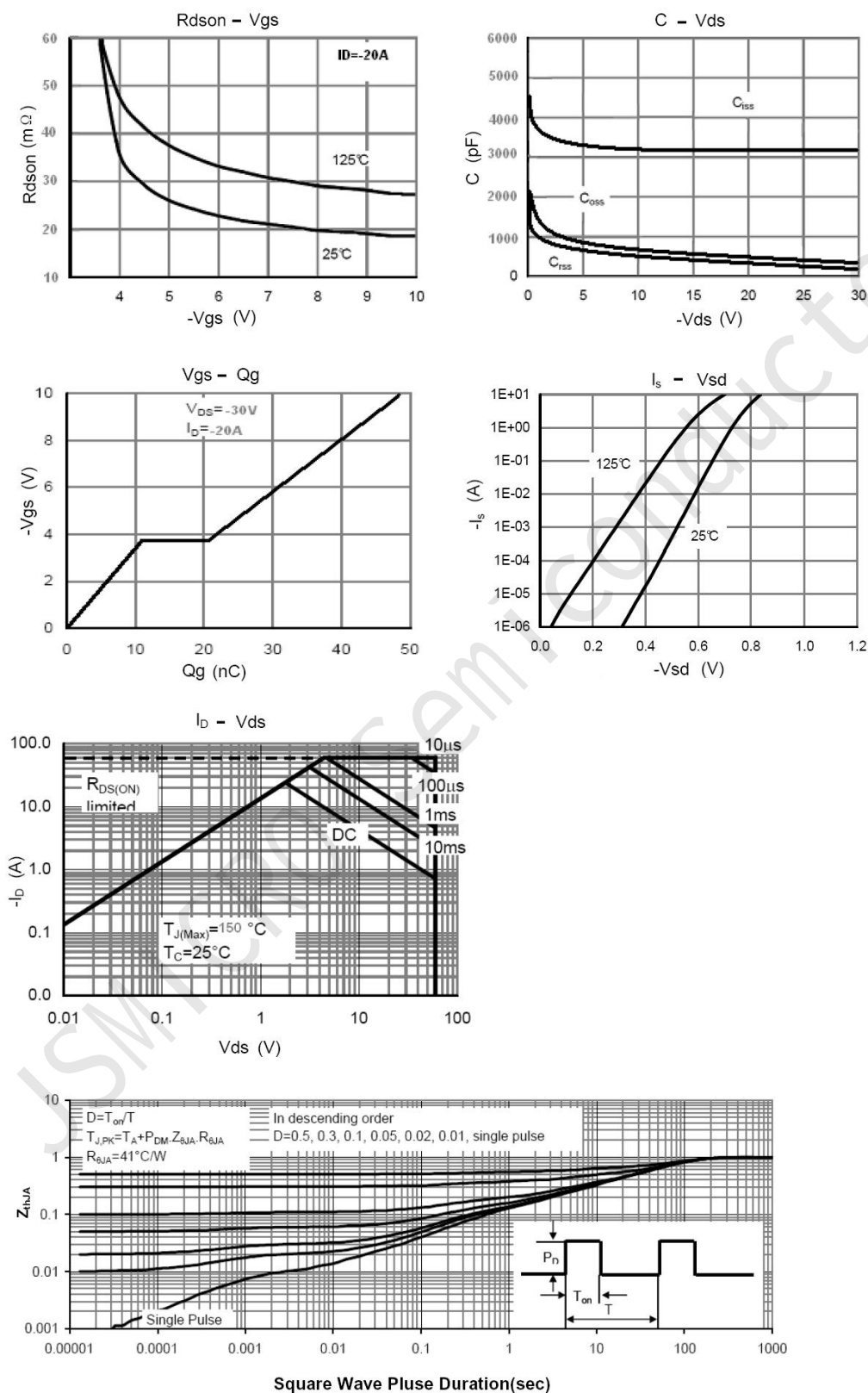
电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =-250μA	-60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-48V V _{GS} =0V			-1.0	μA
Gate-Body Leakage Current Forward	I _{GSS}	V _{GS} =±20V V _{DS} =0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250μA	-1.0	-1.8	-2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V I _D =-20A		31	40	mΩ
		V _{GS} =-4.5V I _D =-20A		42	55	mΩ
Forward Transconductance	g _{FS}	V _{DS} =-5V I _D =-20A		5		S
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V I _S =-1A		-0.72	-1	V
Input Capacitance	C _{iss}	V _{DS} =-30V V _{GS} =0V f=1.0MHz		3060		pF
Output Capacitance	C _{oss}			300		pF
Reverse Transfer Capacitance	C _{rss}			205		pF
Turn-On Delay Time	t _{d(on)}	V=-30V V=-10V RGEN=3Ω I _D =1A		14		ns
Turn-On Rise Time	t _r			20		ns
Turn-Off Delay Time	t _{d(off)}			49		ns
Turn-Off Fall Time	t _f			19		ns
Total Gate Charge	Q _g	V _{DD} =-30V I _D =-20A V _{GS} =-10V		48		nC
Gate-Source Charge	Q _{gs}			11		nC
Gate-Drain Charge	Q _{gd}			10		nC
Reverse Recovery Time	T _{rr}	I _F =-20A		40		nS
Reverse Recovery Charge	Q _{rr}	dI/dt=100A/μs		56		nC

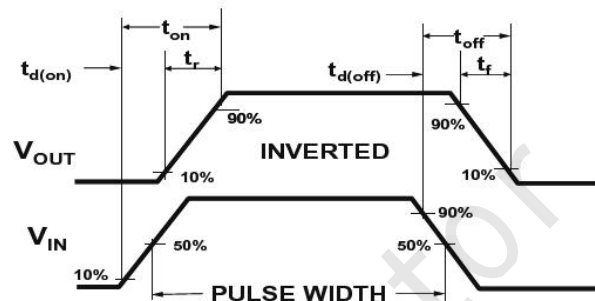
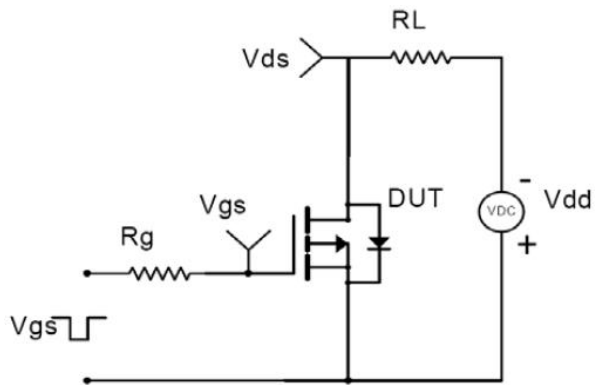
电参数曲线图 / Electrical Characteristic Curve

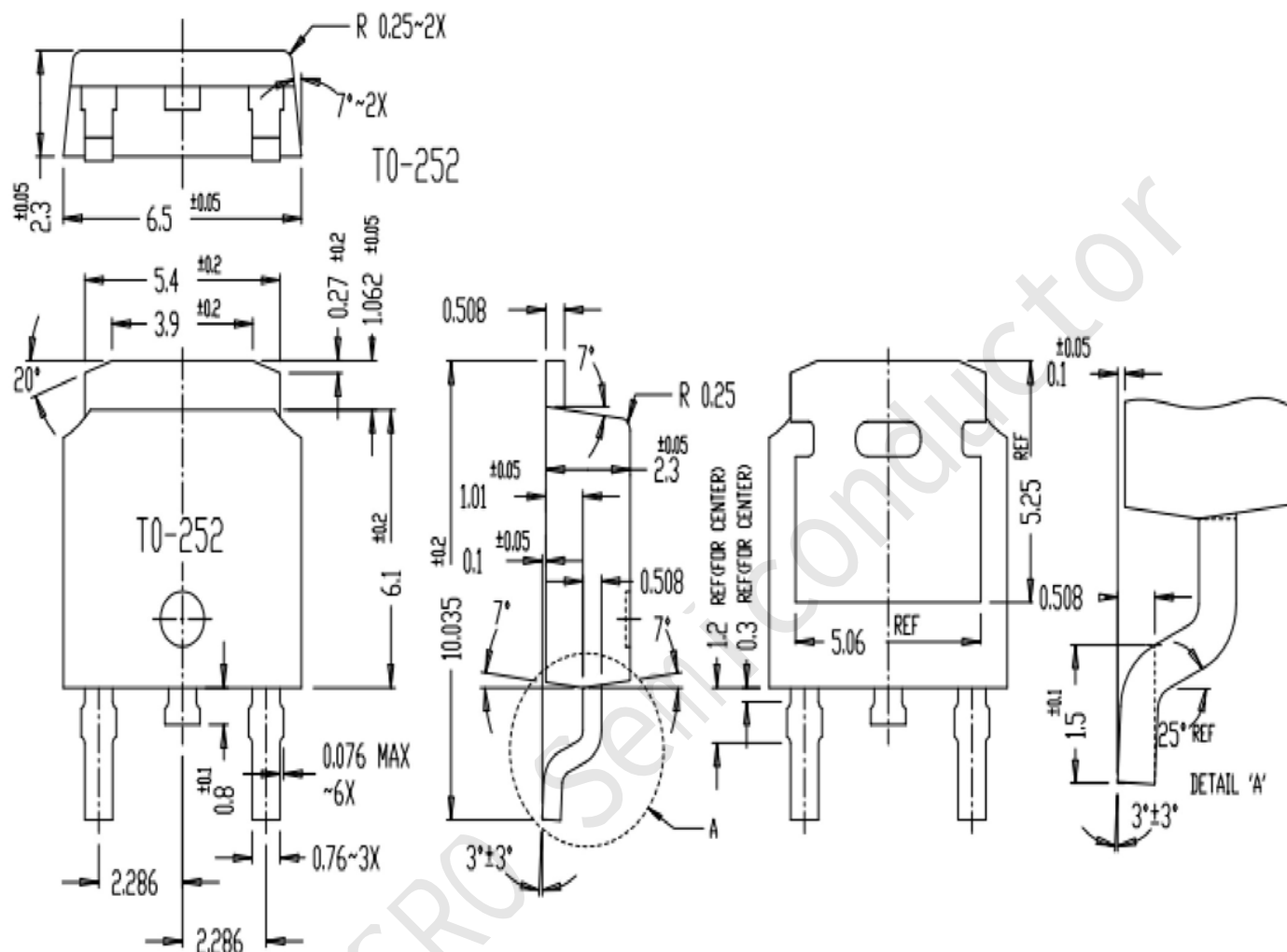


电参数曲线图 / Electrical Characteristic Curve

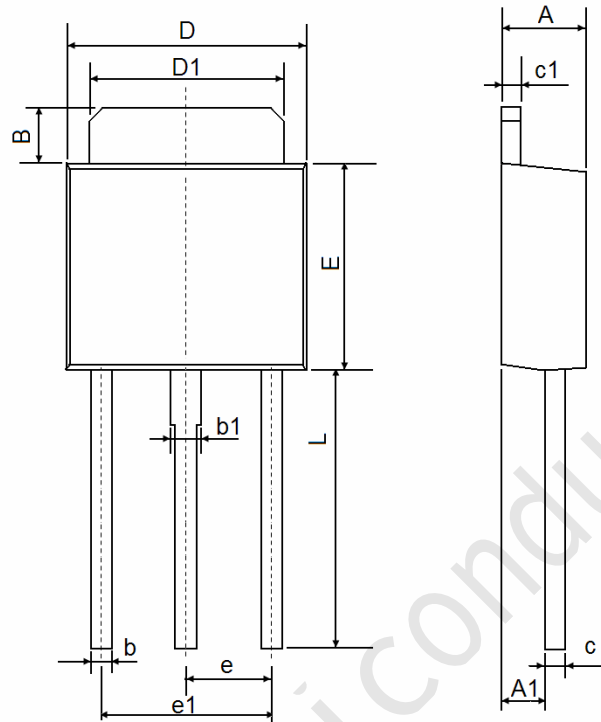


典型电性和热特性 / Typical electrical and thermal properties





TO-251 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.050	1.350	0.042	0.054
B	0.700	1.000	0.028	0.040
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	6.000	0.213	0.237
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	4.900	9.400	0.194	0.372

Notes

1. All dimensions are in millimeters.
2. Tolerance $\pm 0.10\text{mm}$ (4 mil) unless otherwise specified
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 5 mils.
4. Dimension L is measured in gauge plane.
5. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact