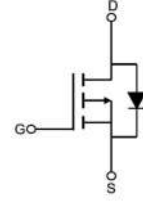


P-Channel Enhancement Mosfet

Feature

- -20V,2A
 $R_{DS(ON)} < 125m\Omega @ V_{GS} = -4.5V$ TYP:95 m Ω
 $R_{DS(ON)} < 190m\Omega @ V_{GS} = -2.5V$ TYP:135 m Ω
- Advanced Trench Technology
- Lead free product is acquired



Schematic Diagram

Application

- Interfacing Switching
- Load Switching
- Power management
- Halogen-free



SOT-323 top view

Package Marking and Ordering Information

Device Marking	Device	Package	Packaging Code	Reel Size	Quantity(Pcs)	Carton(Pcs)
150P20	RM2P20HS3	SOT-323	-T	7inch	3000	120000

ABSOLUTE MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ($T_a = 25^\circ\text{C}$)	I_D	-2	A
Continuous Drain Current ($T_a = 70^\circ\text{C}$)	I_D	-1.3	A
Pulsed Drain Current	I_{DM}	-8	A
Power Dissipation	P_D	0.25	W
Thermal Resistance from Junction to Ambient ⁽⁴⁾	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

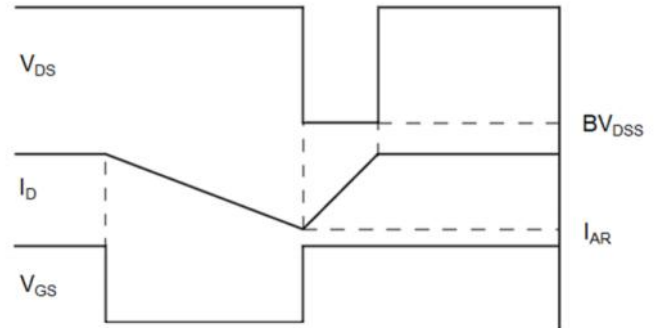
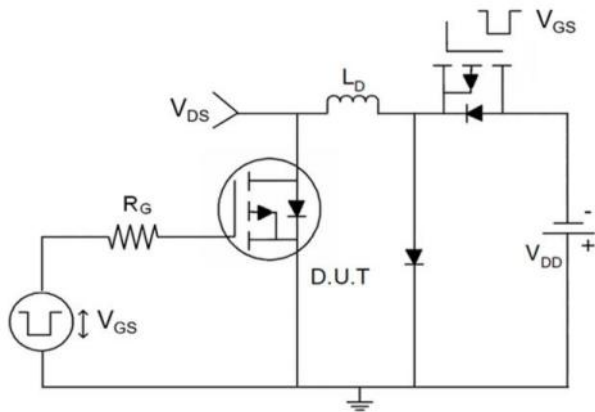
MOSFET ELECTRICAL CHARACTERISTICS($T_J=25^{\circ}\text{C}$ unless otherwise noted)

Notes:

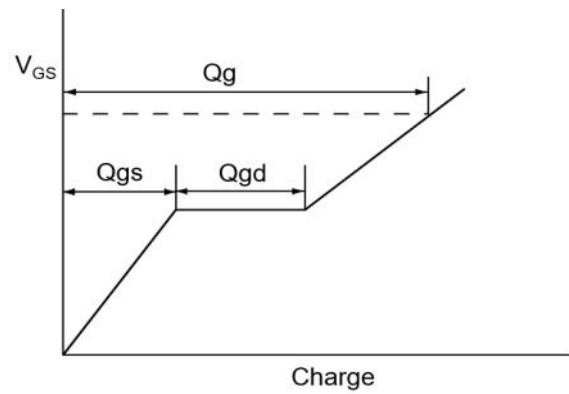
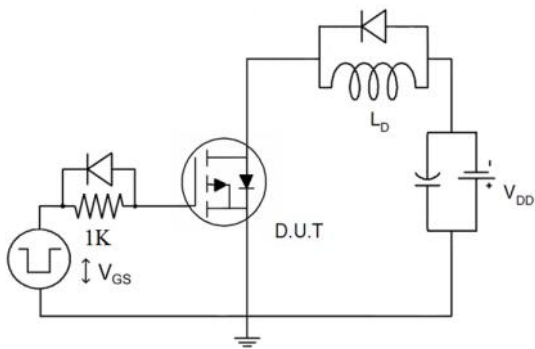
1. Repetitive Rating: pulse width limited by maximum junction temperature
2. Pulse Test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
3. Surface Mounted on FR4 Board, $t \leq 10$ sec

Test Circuit

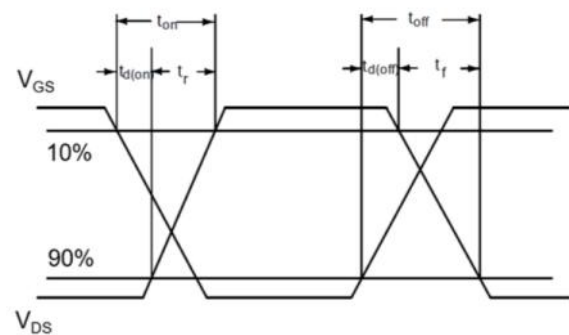
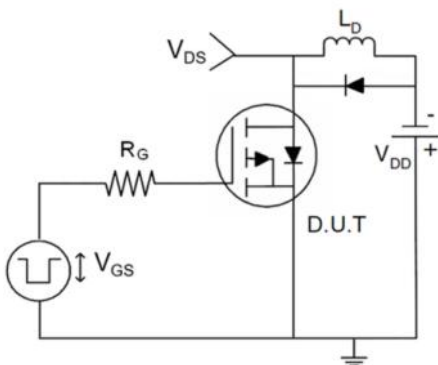
1) E_{AS} Test Circuits



2) Gate Charge Test Circuit



3) Switch Time Test Circuit



RATING AND CHARACTERISTICS CURVES(RM2P20HS3)

Figure1: Output Characteristics

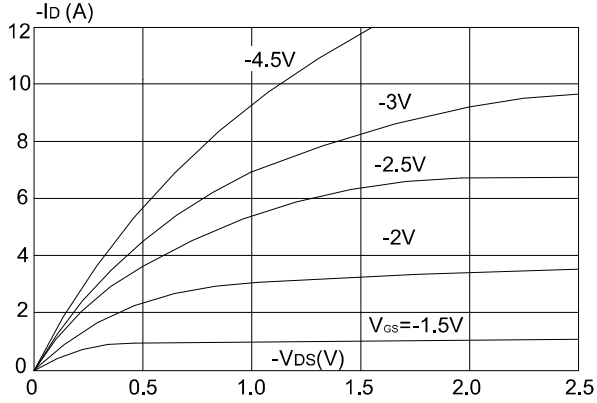


Figure 2: Typical Transfer Characteristics

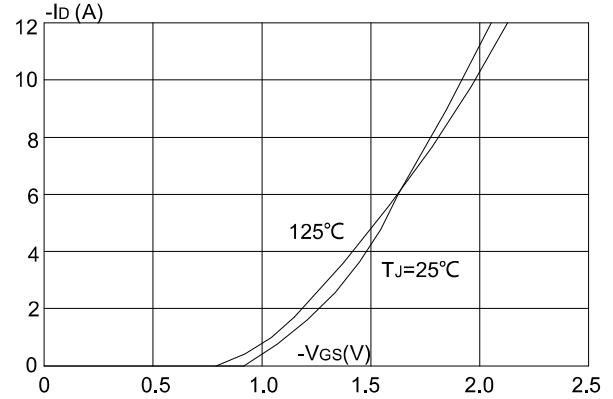


Figure 3: On-resistance vs. Drain Current

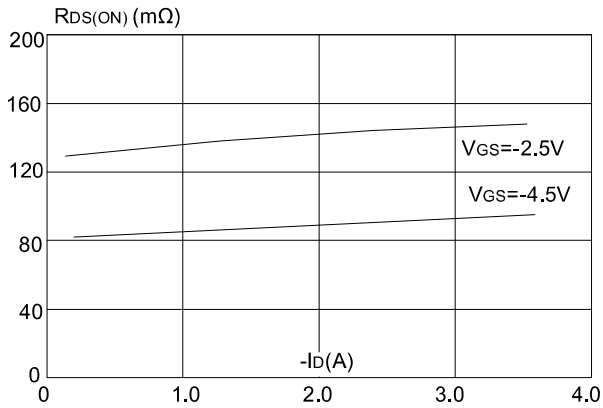


Figure 4: Body Diode Characteristics

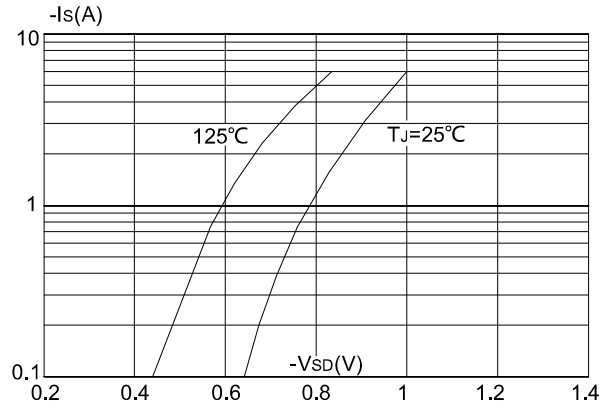


Figure 5: Gate Charge Characteristics

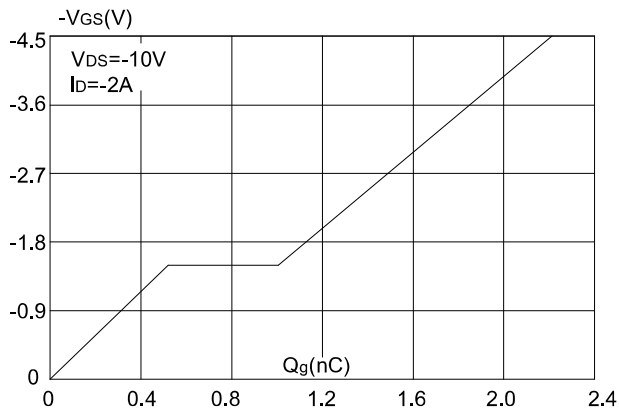
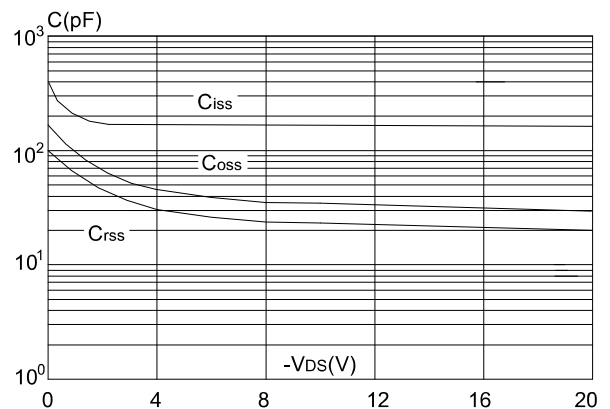


Figure 6: Capacitance Characteristics



RATING AND CHARACTERISTICS CURVES (RM2P20HS3)

Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

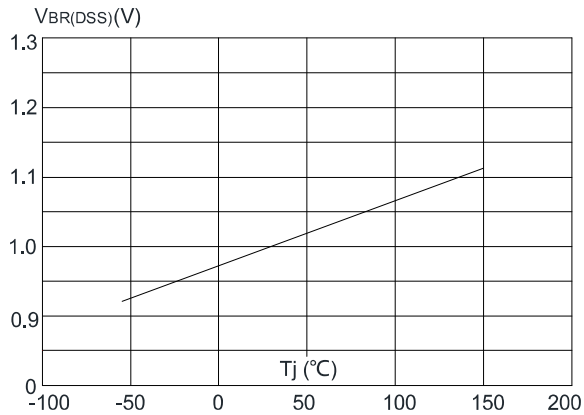


Figure 8: Normalized on Resistance vs. Junction Temperature

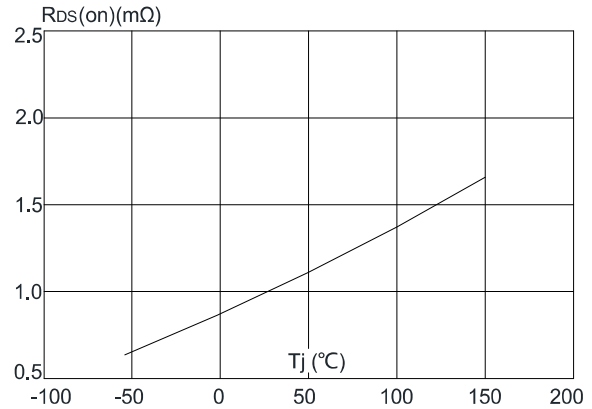


Figure 9: Maximum Safe Operating Area

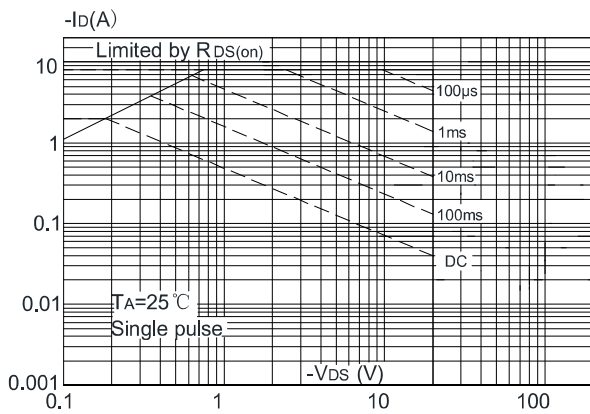


Figure 10: Maximum Continuous Drain Current vs. Ambient Temperature

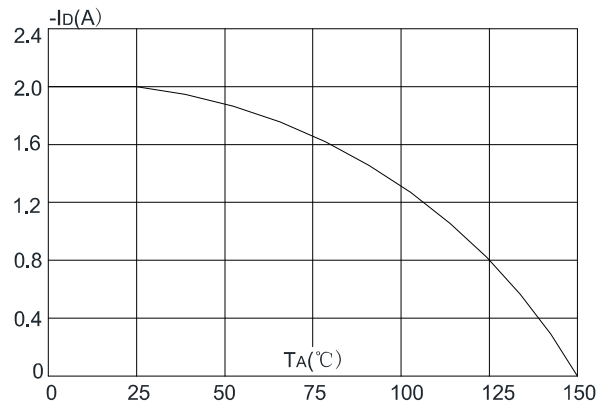
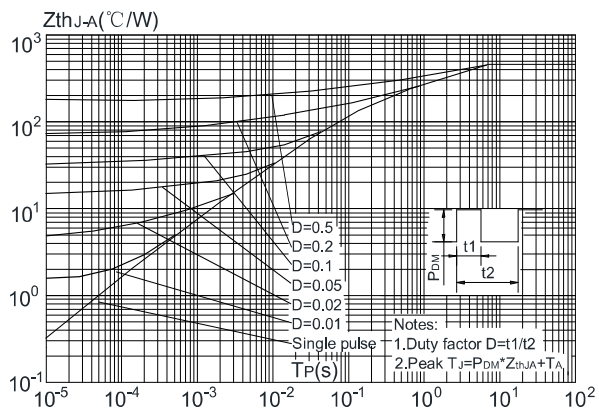
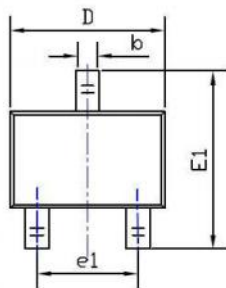


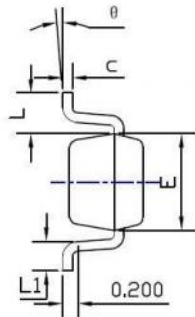
Figure.11: Maximum Effective Transient Thermal Impedance, Junction-to-Ambient



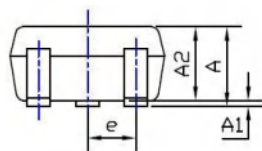
SOT-323 Package Information



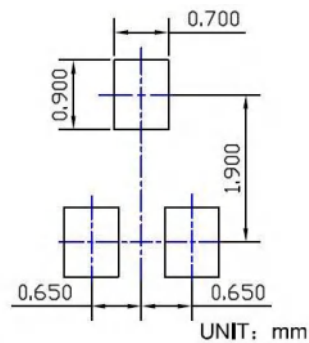
TOP VIEW



SIDE VIEW



SIDE VIEW



SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS					
	INCHES			MILLIMETER		
	MIN.	NDM.	MAX.	MIN.	NDM.	MAX.
A	0.035	----	0.043	0.900	----	1.100
A1	0.000	----	0.004	0.000	----	0.100
A2	0.035	0.037	0.039	0.900	0.950	1.000
b	0.006	0.012	0.016	0.150	0.300	0.400
c	0.004	----	0.010	0.100	----	0.250
D	0.071	0.079	0.087	1.800	2.000	2.200
E	0.045	0.049	0.053	1.150	1.250	1.350
E1	0.085	0.091	0.096	2.150	2.300	2.450
e	0.026TYP			0.650TYP		
e1	0.047	0.051	0.055	1.200	1.300	1.400
L	0.021REF			0.525REF		
L1	0.010	0.014	0.018	0.260	0.360	0.460
theta	0°	----	8°	0°	----	8°

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

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