

■ PRODUCT CHARACTERISTICS

VDSS	-20V
$R_{DS(on)Typ}(V_{GS} = -4.5V)$	87mΩ
$R_{DS(on)typ}(V_{GS} = -2.5V)$	114 mΩ
ID	-2A

■ APPLICATIONS

- Load switch for portable
- DC/DC converter

■ FEATURES

- * High Density Cell Design For Ultra Low On-Resistance
- * Advanced trench process technology

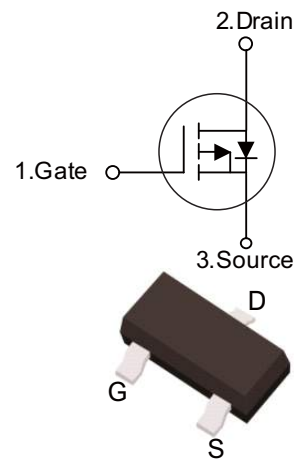
■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	PMV75UP	SOT-23	3000pieces/Real

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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-2	A
Pulsed Drain Current	I_{DM}	-8	A
Maximum Power Dissipation	P_D	0.7	W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

Symbol



■ ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$, unless otherwise specified)

Parameter	Symbol	Test condition	Min.	Typ.	Max.	Unit
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 100	nA
Off characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.4	-0.7	-1	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-2 A$	-	87	120	m Ω
		$V_{GS}=-2.5V, I_D=-1.8A$	-	114	170	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=-5V, I_D=-2A$	4	-	-	S
On characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V,$ $F=1.0MHz$	-	190	-	PF
Output Capacitance	C_{oss}		-	25	-	PF
Reverse Transfer Capacitance	C_{rss}		-	25	-	PF
Switching characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=-10V$ $V_{GS}=-4.5V, R_G=3\Omega$	-	10	-	nS
Turn-on Rise Time	t_r		-	5.0	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	21	-	nS
Turn-Off Fall Time	t_f		-	7	-	nS
Total Gate Charge	Q_g	$V_{DS}=-10V, I_D=-2A,$ $V_{GS}=-4.5V$	-	3.0	-	nC
Gate-Source Charge	Q_{gs}		-	0.5	-	nC
Gate-Drain Charge	Q_{gd}		-	0.8	-	nC
Drain-source diode characteristics						
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-1A$	-	-	-1.2	V
Diode Forward Current	I_S		-	-	-2.0	A

■ TYPICAL CHARACTERISTICS

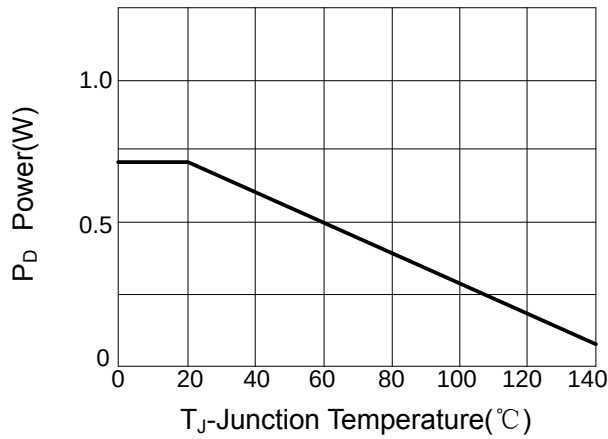


Figure 1: Power dissipation

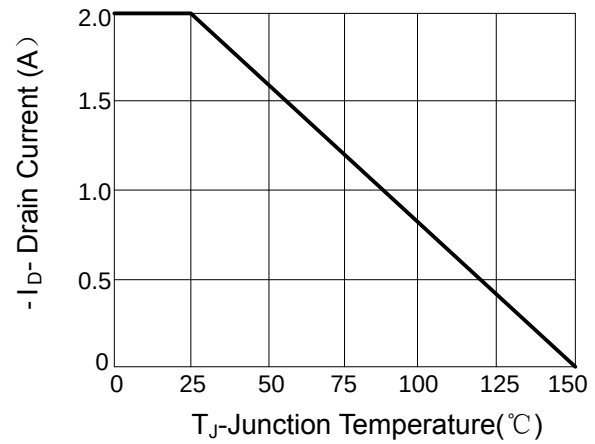


Figure 2: Drain current

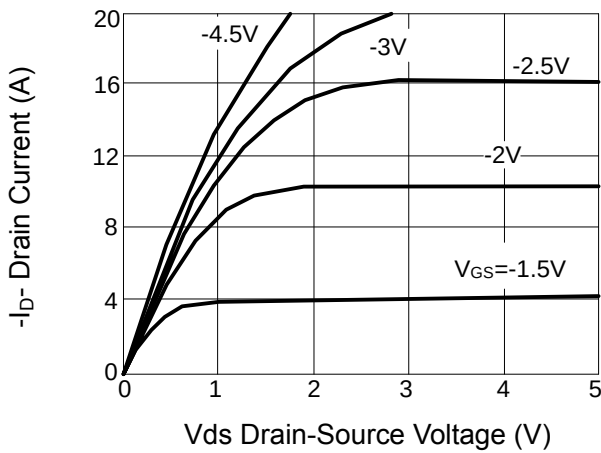


Figure 3: Output characteristics

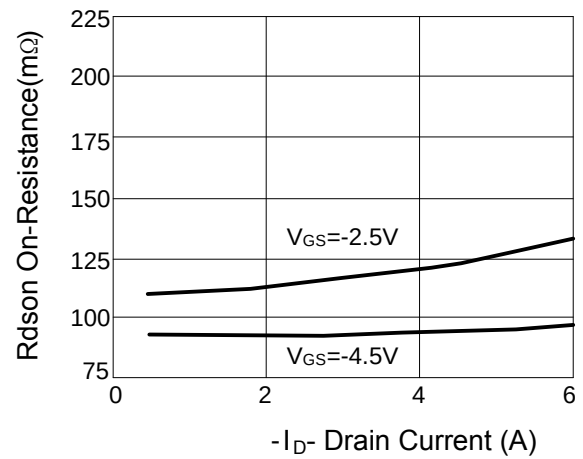


Figure 4: Drain-source on-resistance

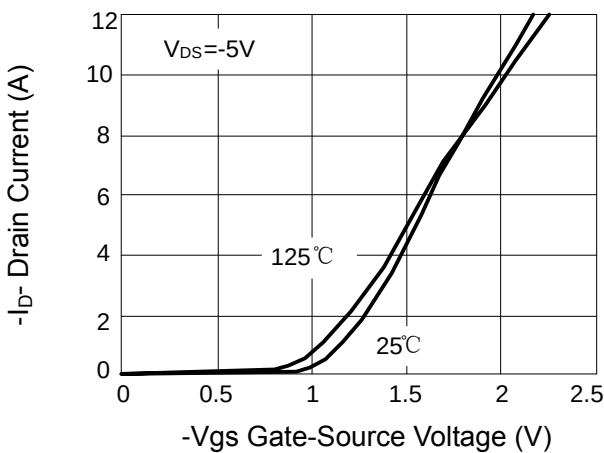


Figure 5: Transfer characteristics

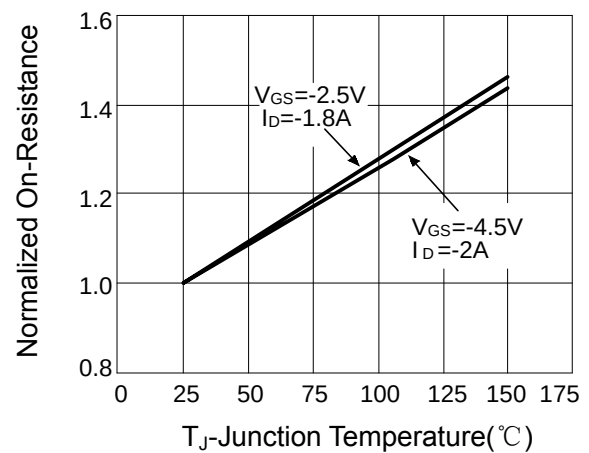


Figure 6: Drain-source on-resistance

■ TYPICAL CHARACTERISTICS(Cont.)

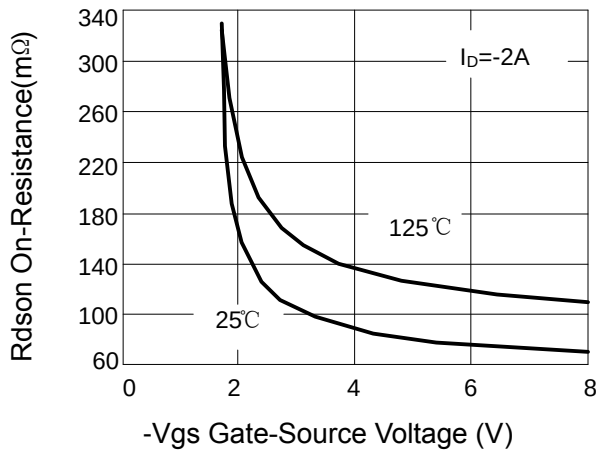


Figure 7: Rdson vs. vgs

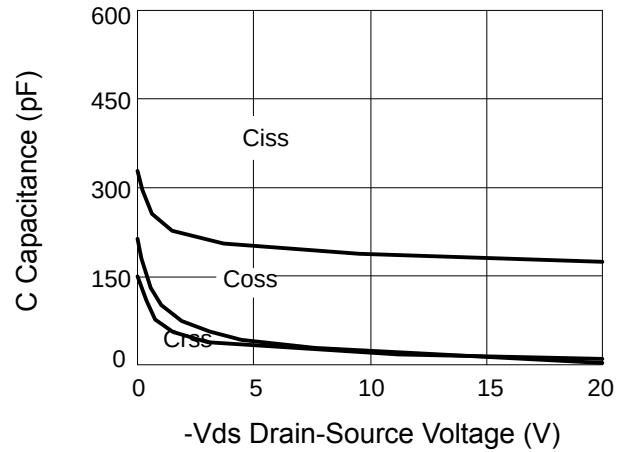


Figure 8: Capacitance vs. vds

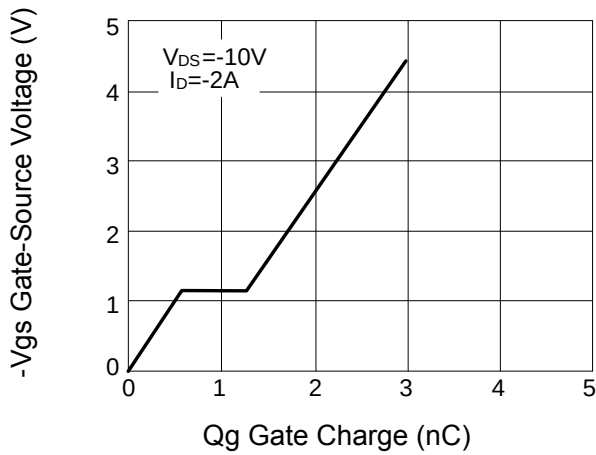


Figure 9: Gate charge

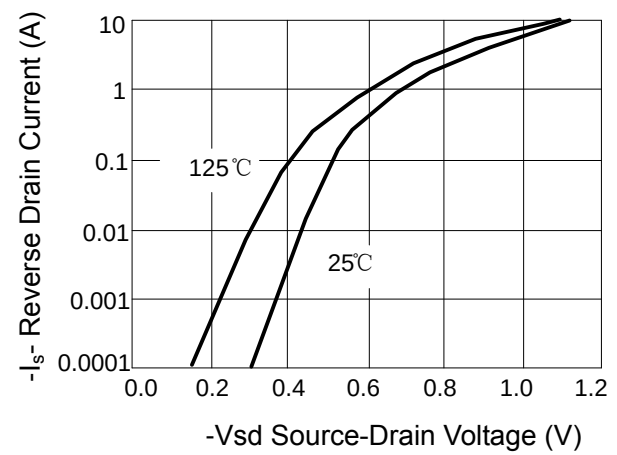


Figure 10: Sour-drain diode forward

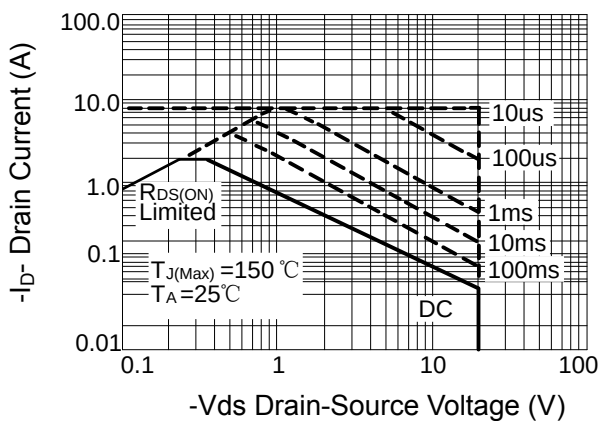
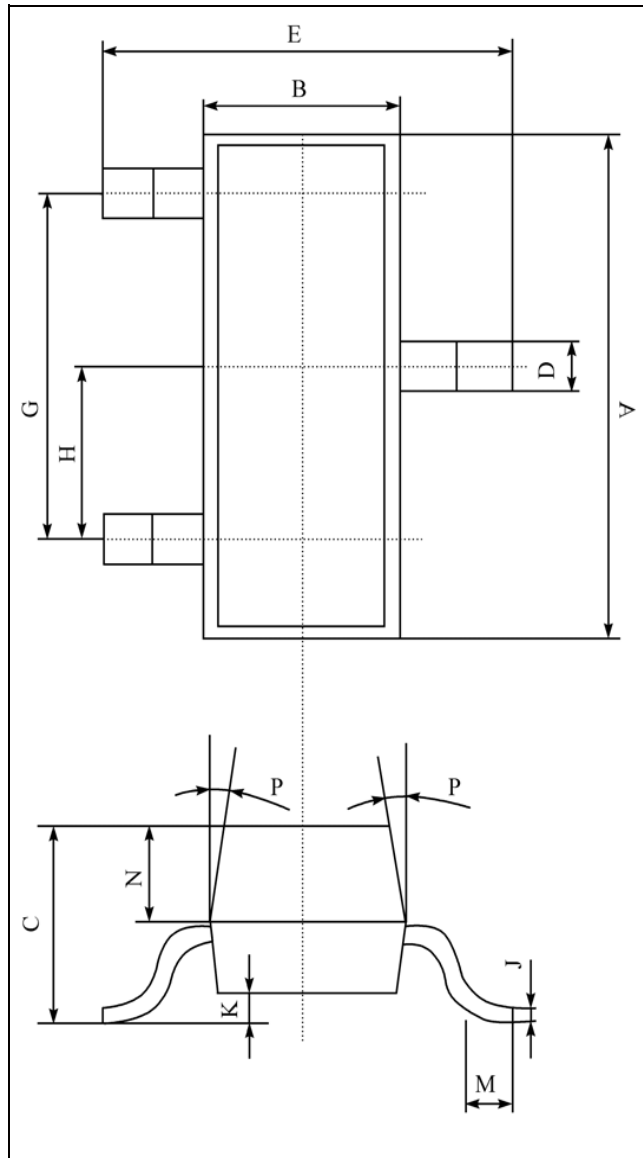


Figure 11: Safe operation area

SOT-23 PACKAGE OUTLINE DIMENSIONS

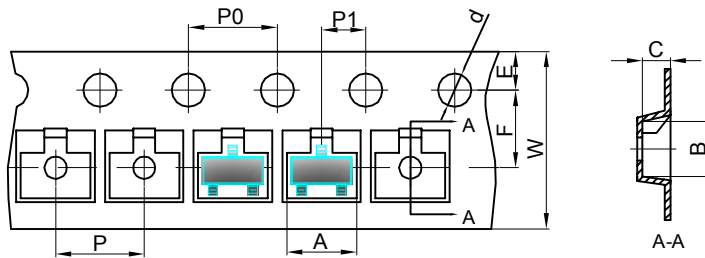


单位 (UNIT) : mm

序号	数值及公差
A	2.90 ± 0.10
B	1.30 ± 0.10
C	1.00 ± 0.10
D	0.40 ± 0.10
E	2.40 ± 0.20
G	1.90 ± 0.10
H	0.95 ± 0.05
J	0.13 ± 0.05
K	$0.00 - 0.10$
M	≥ 0.20
N	0.60 ± 0.10
P	$7 \pm 2^\circ$
Packing SOT-23 包装规格 SMD片式表面贴封装 包装方式: 载带卷盘包装 Tape & Reel, 3Kpcs/Reel 每卷数量3000只 (3Kpcs/Reel) 每盒数量45000只 (45Kpcs/BOX) 每箱数量180000只 (180Kpcs/Cartons)	

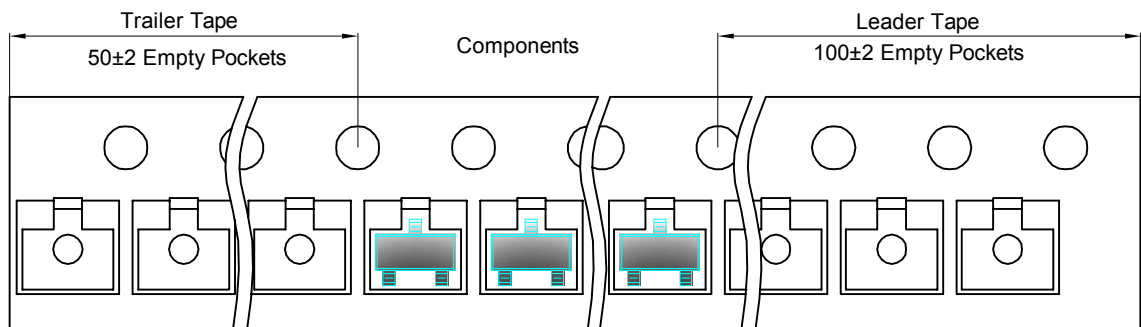
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

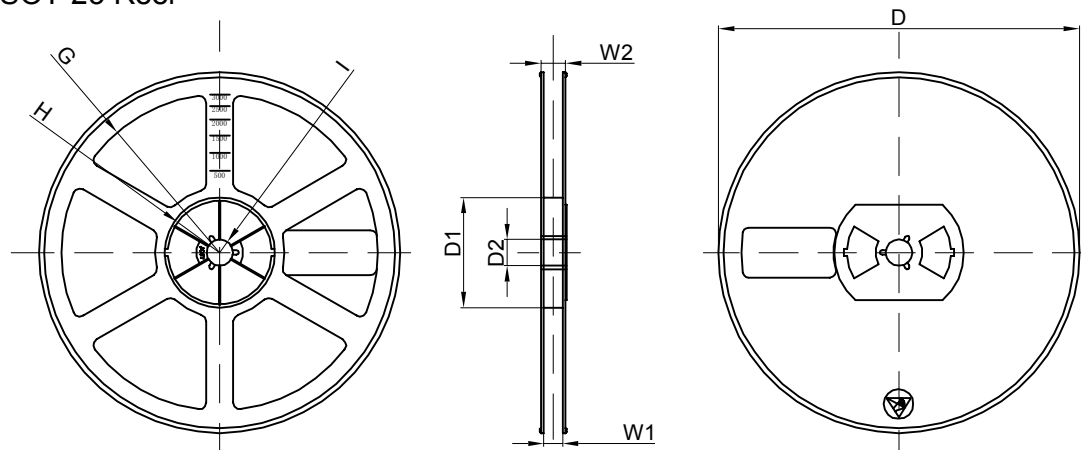


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	192×192×193	180,000 pcs	404×404×214	