

■ PRODUCT CHARACTERISTICS

VDSS	-30V
$R_{DS(on)Typ}(V_{GS}@=-4.5\text{ V})$	48mΩ
$R_{DS(on)Typ}(V_{GS}@=-2.5\text{ V})$	55mΩ
ID	-4.2

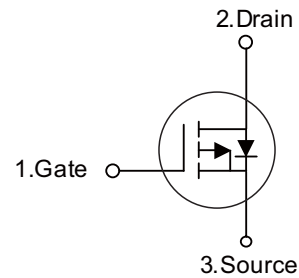
■ APPLICATIONS

Load/Power Switching
Interfacing Switching

■ FEATURES

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

Symbol



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	PMV74EPE	SOT-23	3000pieces/Real

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

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 12	V
Continuous Drain Current		I_D	-4.2	A
Pulsed Drain Current		I_{DM}	-30	A
Maximum Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	1.4	W
	$T_A = 75^\circ\text{C}$		1	W
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$
Junction-to-Ambient Thermal Resistance (PCB mounted)		$R_{\theta JA}$	125	$^\circ\text{C/W}$

■ ELECTRICAL CHARACTERISTICS (T_C=25°C, unless otherwise specified)

Parameter	Symbol	Test condition	Min.	Typ.	Miax.	Unit
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D = -250uA	-30	-	-	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -4.2A	-	48	55	mΩ
		V _{GS} = -4.5V, I _D = -3A	-	53	65	mΩ
		V _{GS} = -2.5V, I _D = -1A	-	65	75	mΩ
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D = -250uA	-0.7	-1	-1.3	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V	-	-	-1	uA
Gate Body Leakage	I _{GSS}	V _{GS} = ± 12V, V _{DS} = 0V	-	-	± 100	nA
Forward Transconductance	g _{fs}	V _{DS} = -5V, I _D = -5A	7	11		S
Dynamic						
Total Gate Charge	Q _g	V _{DS} = 20V, I _D = 5.7A V _{GS} = 10V	-	9.4	-	nC
Gate-Source Charge	Q _{gs}		-	2	-	nC
Gate-Drain Charge	Q _{gd}		-	3	-	nC
Turn-On Delay Time	t _{d(on)}	V _{DD} = 20V, RL=20Ω I _D = 1A, V _{GEN} = 10V R _G = 6Ω	-	6.3	-	ns
Turn-On Rise Time	t _r		-	3.2	-	ns
Turn-Off Delay Time	t _{d(off)}		-	38.2	-	ns
Turn-Off Fall Time	t _f		-	12	-	ns
Input Capacitance	C _{iSS}	V _{DS} = 8V, V _{GS} = 0V f = 1.0 MHz	-	954	-	pF
Output Capacitance	C _{oSS}		-	115	-	pF
Reverse Transfer Capacitance	C _{rSS}		-	77	-	pF
Source-drain diode						
Max. Diode Forward Current	I _S		-	-	-2.2	A
Diode Forward Voltage	V _{SD}	I _S = 2.9A, V _{GS} = 0V	-	-	-1.0	V

Note: Pulse test: pulse width ≤ 300us, duty cycle ≤ 2%

■ TYPICAL CHARACTERISTICS

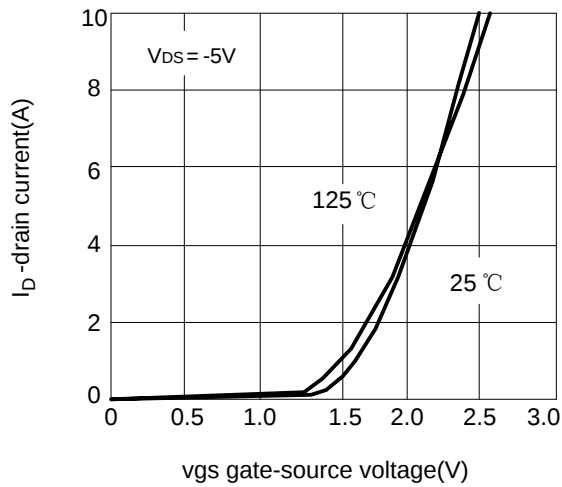


Fig.1 transfer characteristics

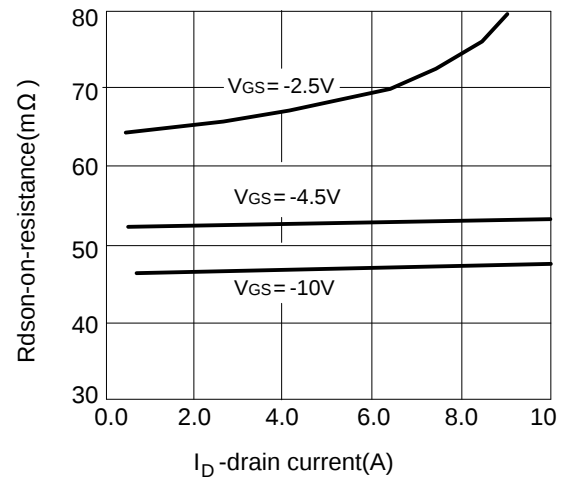


Fig.2 on resistance vs gate to source voltage

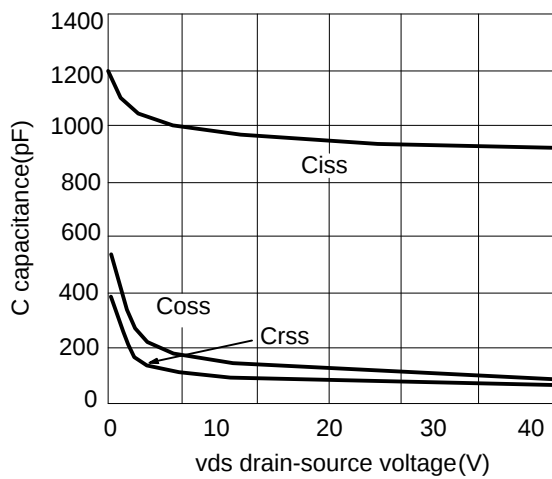


Fig.3 capacitance vs vds

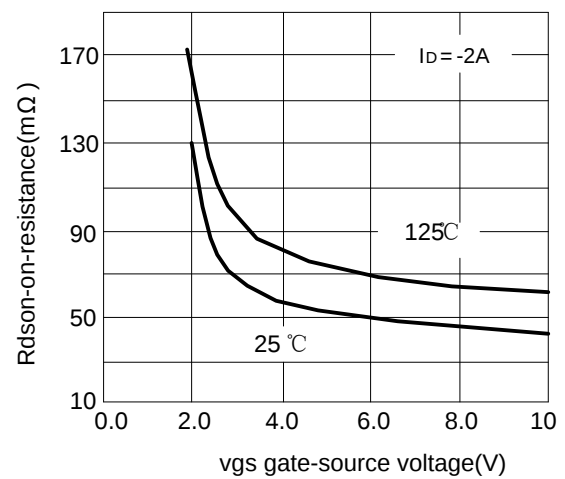


Fig.4 on resistance vs gate to source voltage

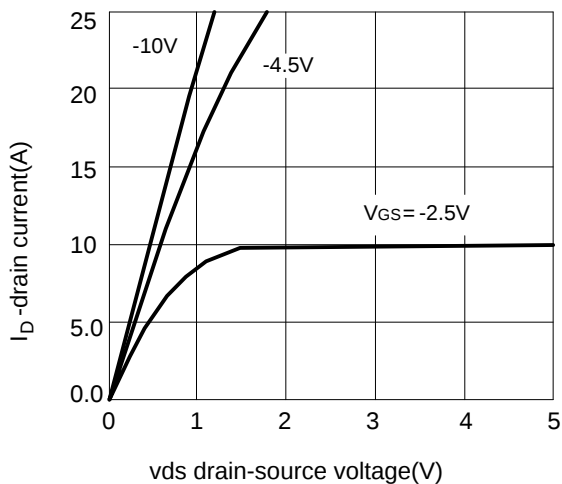
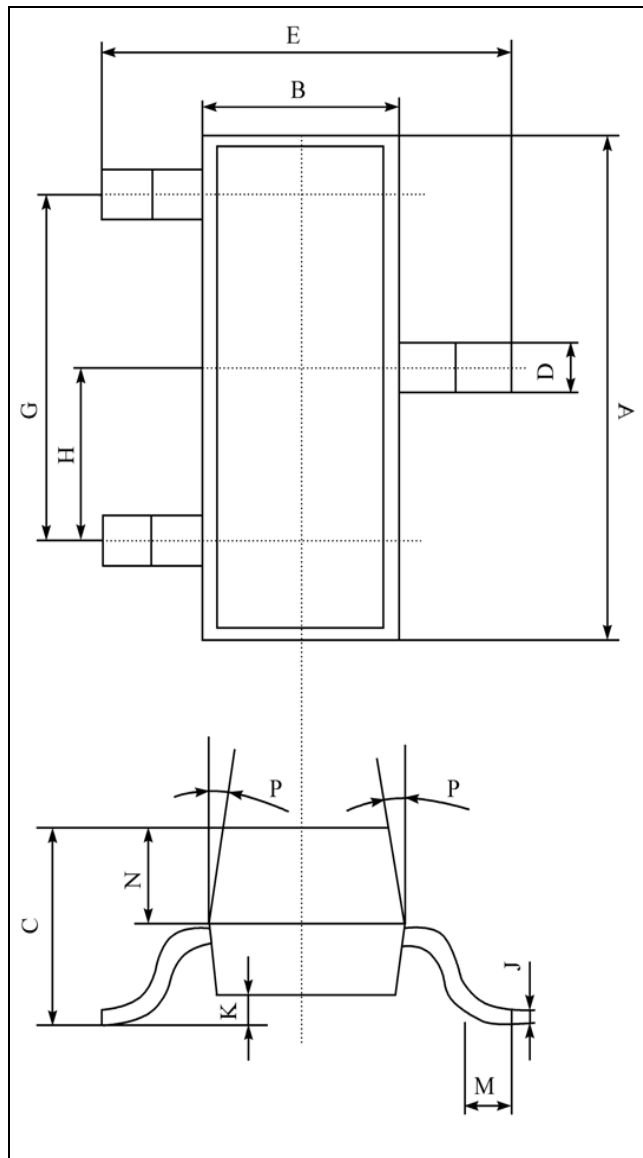


Fig.5 output characteristics

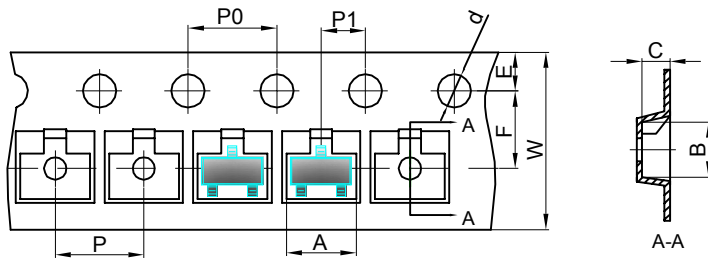
■ SOT-23 PACKAGE OUTLINE DIMENSIONS

单位 (UNIT) : mm



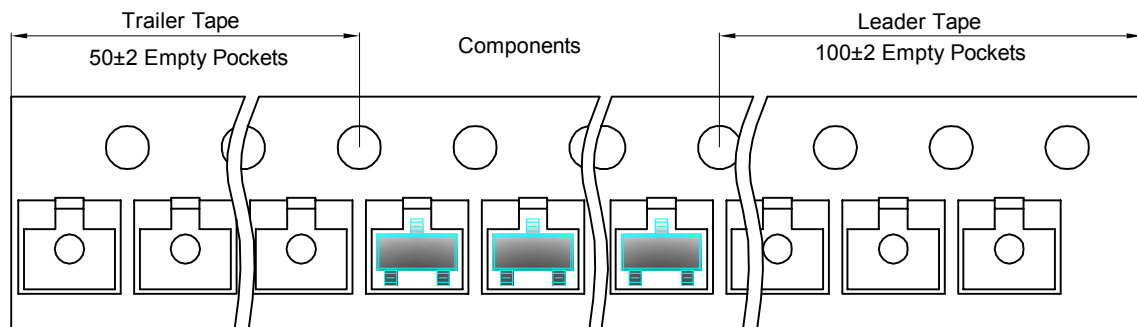
序号	数值及公差
A	2.90 ± 0.10
B	1.30 ± 0.10
C	1.00 ± 0.10
D	0.40 ± 0.10
E	2.40 ± 0.20
G	1.90 ± 0.10
H	0.95 ± 0.05
J	0.13 ± 0.05
K	$0.00 - 0.10$
M	≥ 0.20
N	0.60 ± 0.10
P	$7 \pm 2^\circ$
Packing SOT-23 包装规格 SMD片式表面贴封装 包装方式: 载带卷盘包装 Tape & Reel, 3Kpcs/Reel 每卷数量3000只 (3Kpcs/Reel) 每盒数量45000只 (45Kpcs/BOX) 每箱数量180000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

SOT-23 Embossed Carrier Tape

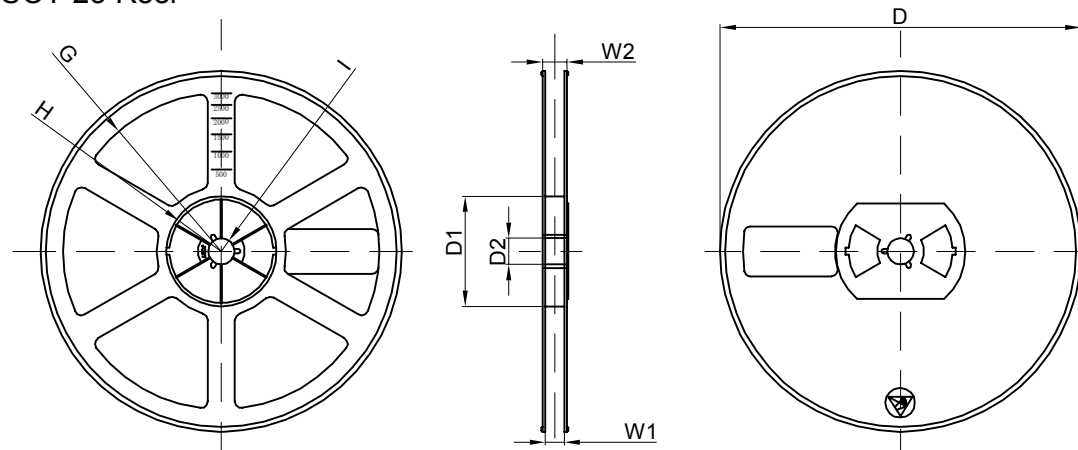


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	