

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	0.92Ω@10V	0.3A
	0.98Ω@4.5V	
	1.0Ω@4.0V	
	1.2Ω@2.5V	

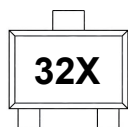
Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- ESD Protected

Application

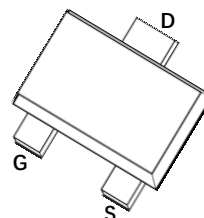
- Interfacing, Switching

MARKING:

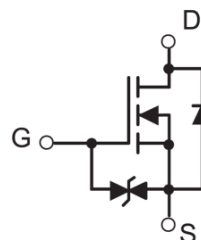


X: date code

SOT-723



Schematic diagram



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

Parameter		Symbol	Value	Unit
Drain - Source Voltage		V_{DS}	30	V
Gate - Source Voltage		V_{GS}	±20	V
Continuous Drain Current ^{1,5}	$T_A = 25^\circ\text{C}$	I_D	0.3	A
Pulsed Drain Current ²		I_{DM}	1.2	A
Power Dissipation ^{4,5}	$T_A = 25^\circ\text{C}$	P_D	0.45	W
Thermal Resistance from Junction to Ambient ⁵		$R_{\theta JA}$	278	$^\circ\text{C/W}$
Junction Temperature		T_J	150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55~ +150	$^\circ\text{C}$

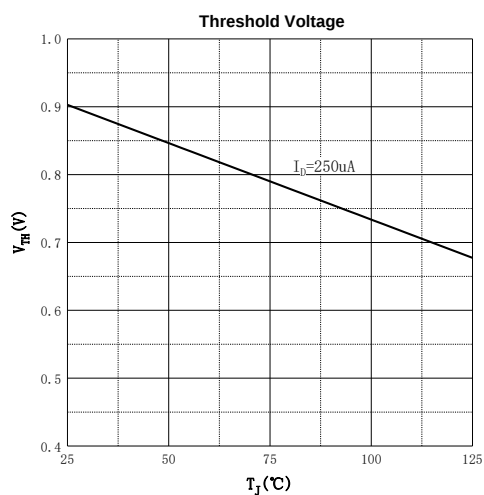
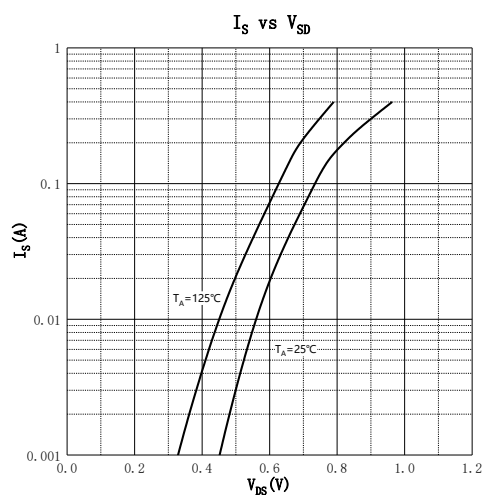
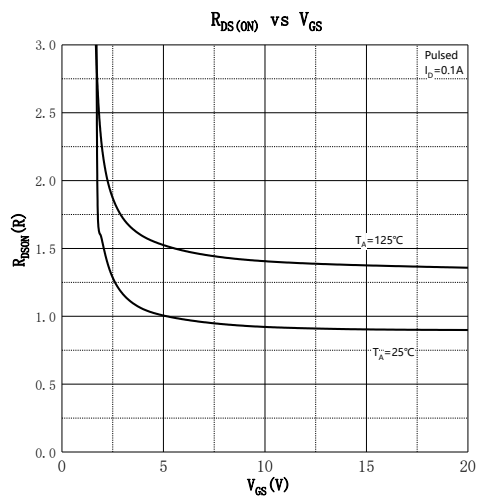
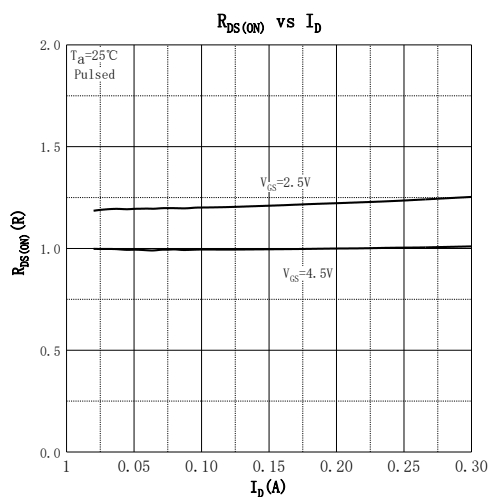
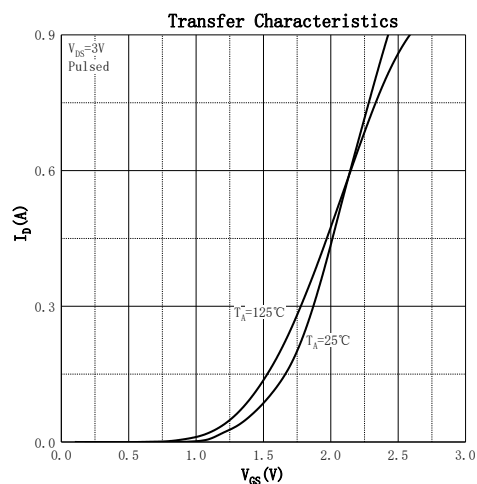
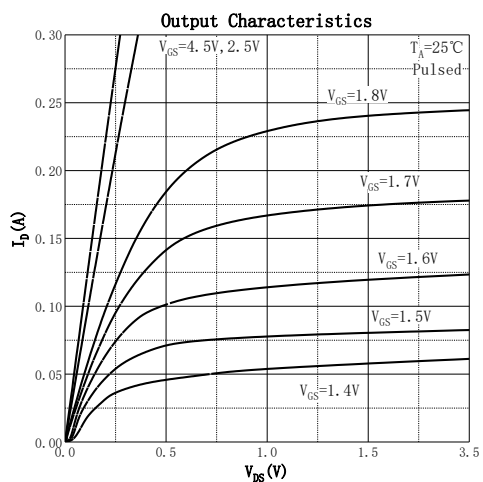
MOSFET ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

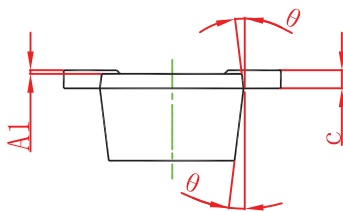
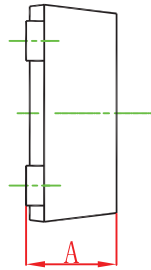
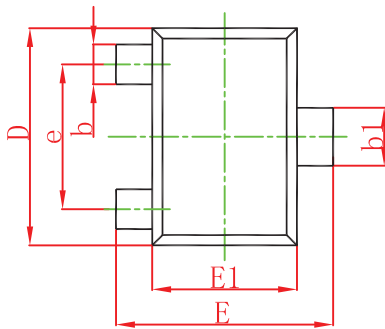
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30V, V _{GS} = 0V			1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±3	μA
On Characteristics ³						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.5	0.9	1.5	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 0.4A		0.92	2.5	Ω
		V _{GS} = 4.5V, I _D = 0.2A		0.98	3.0	
		V _{GS} = 4.0V, I _D = 0.2A		1.0	3.5	
		V _{GS} = 2.5V, I _D = 0.1A		1.2	4.5	
Forward Transconductance	g _{FS}	V _{DS} = 4.5V, I _D = 3A	3			S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} = 15V, V _{GS} = 0V, f = 0.1MHz		25		pF
Output Capacitance	C _{oss}			7		
Reverse Transfer Capacitance	C _{rss}			3		
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = 15V, V _{GS} = 10V, I _D = 0.3A		2.1		nC
Gate-source Charge	Q _{gs}			0.42		
Gate-drain Charge	Q _{gd}			0.55		
Turn-on Delay Time	t _{d(on)}	V _{DD} = 15V, V _{GS} = 10V, R _L = 50Ω, R _G = 3Ω		10.4		ns
Turn-on Rise Time	t _r			5		
Turn-off Delay Ttime	t _{d(off)}			27		
Turn-off Fall Time	t _f			21		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V _{SD}	V _{GS} = 0V, I _S = 0.3A			1.2	V

Notes :

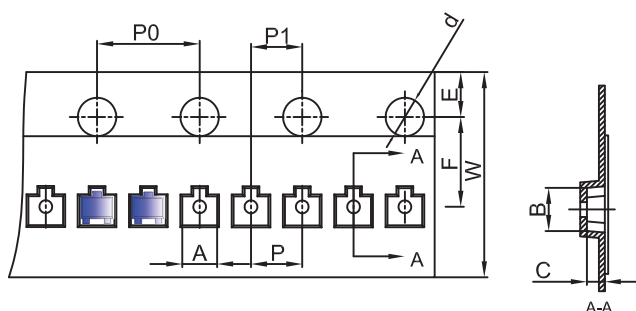
- 1.The maximum current rating is limited by package.
- 2.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 3.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 4.The power dissipation P_D is limited by $T_{J(MAX)} = 150^\circ\text{C}$.
- 5.Device mounted on $1in^2$ FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Characteristics

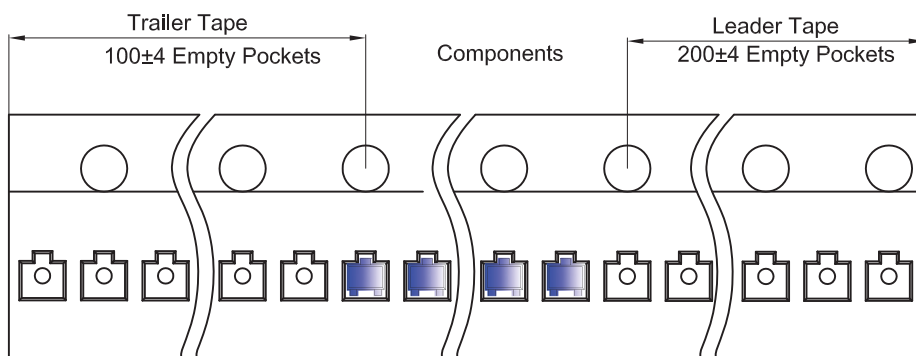
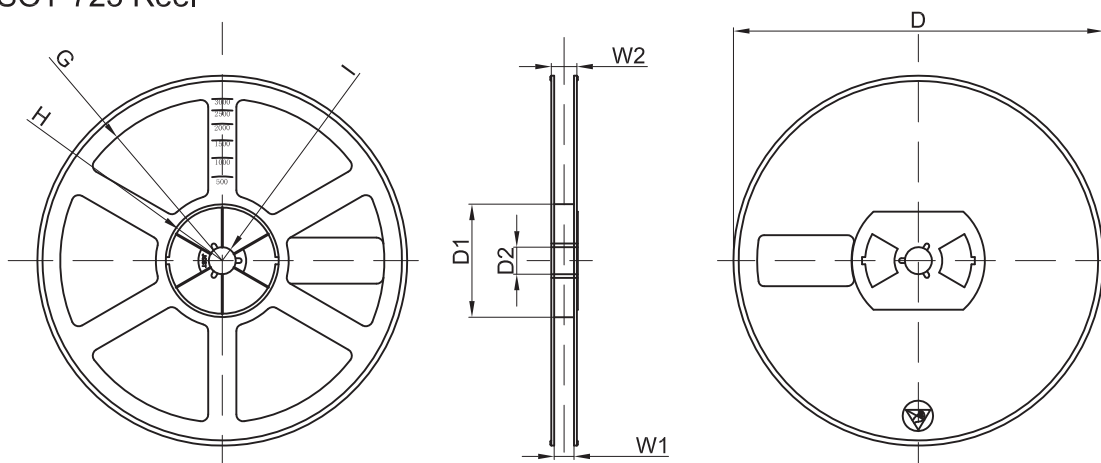


SOT-723 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

SOT-723 Package Information
SOT-723 Embossed Carrier Tape


Dimensions are in millimeter											
Pkg type	A	B	C	d	E	F	P0	P	P1	W	
SOT-723	1.33	1.45	0.61	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00	

SOT-723 Tape Leader and Trailer

SOT-723 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)
8000 pcs	7 inch	120,000 pcs	203×203×195	480,000 pcs	438×438×220	