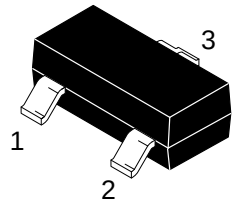
-20V P-Channel Enhancement Mode MOSFET

VDS= -20V
RDS(ON), Vgs@ -4.5V, Ids@ -2.3A＜120.0m**Ω**
RDS(ON), Vgs@ -2.5V, Ids@ -2.0A＜ 180.0m**Ω**

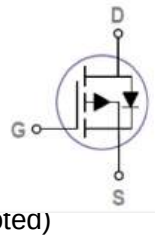
Features

- ◆Advanced trench process technology
- ◆High Density Cell Design For Ultra Low On-Resistance
- ◆Humidity sensitivity class:MSL-1



PIN1:G
PIN2:S
PIN3:D

SOT323 (Top View)



Maximum Ratings and Thermal Characteristics (TA = 25oC unless otherwise noted)

Parameter	Symbol	Maximum	Units
Drain to Source Voltage	V_{DSS}	-20	V
Gate to Source Voltage	V_{GSS}	±12	V
Drain Current (DC)	I_D	-2.3	A
Drain Current (Pulse), PW≤300μs	I_{DP}	-8	A
Total Dissipation	P_D	0.8	W
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55 to +150	℃

Note 1: Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

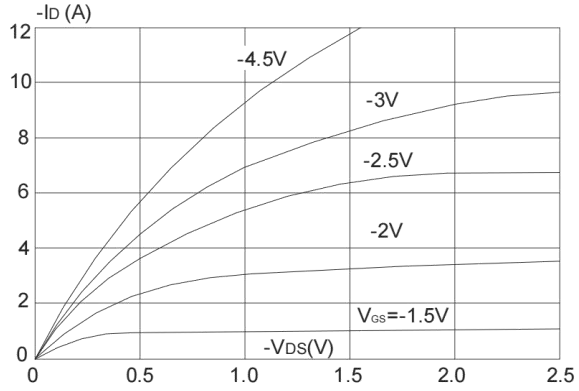
Model	Marking	Package	shipping
AM20CP025T	**2301**	**SOT323**	**3000/Tape&Reel**

Electrical Characteristics(Ta=25℃)

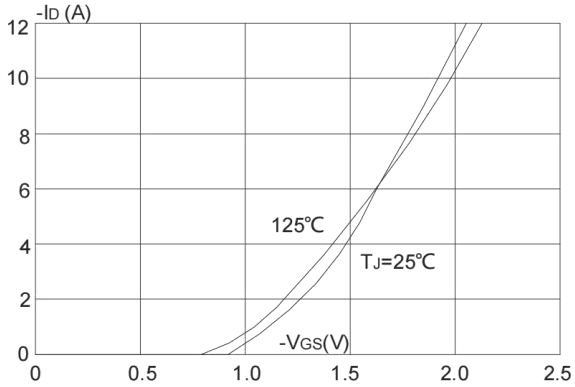
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	I_D = -250μA, V_{GS} = 0V	-20	-22		V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS} = -20V, V_{GS} = 0V			-1	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_{DS}=-250μA	-0.5	-0.75	-1.2	V
Static Drain to Source On-State Resistance	$R_{DS(on)}$	I_D =-2.3A, V_{GS} =-4.5V		98	120	mΩ
		I_D =-1A, V_{GS} = -2.5V		125	180	mΩ
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-10V, Frequency=1.0MHz		185		pF
Output Capacitance	C_{oss}			35		pF
Reverse Transfer Capacitance	C_{rss}			25		pF
Turn-ON Delay Time	$t_{d(on)}$	V_{DD} =-10V, R_L=-5A, R_G = 3.3Ω, V_{GS} = -4.5V		10		ns
Rise Time	t_r			30		ns
Turn-OFF Delay Time	$t_{d(off)}$			63		ns
Fall Time	t_f			50		ns
Total Gate Charge	Q_g	V_{DS} = -10V, V_{GS} = -4.5V, I_D = -2.3A		2.2		nC
	Q_{gs}			0.5		nC
	Q_{gd}			0.5		nC
Diode Forward Voltage	V_{FSD}	I_S = -2.3A, V_{GS} = 0		-0.55	-1.2	V

Note 3： Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

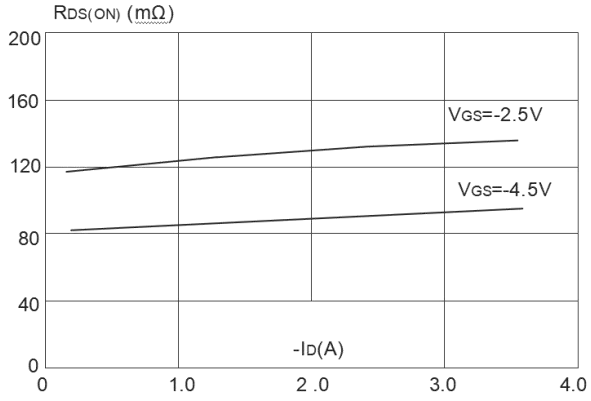
Electrical Characteristic Curve



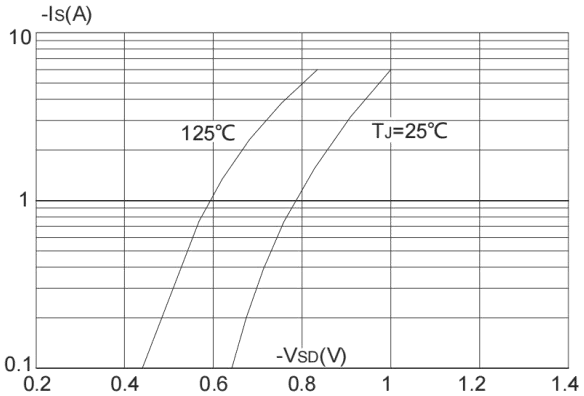
Output Characteristics



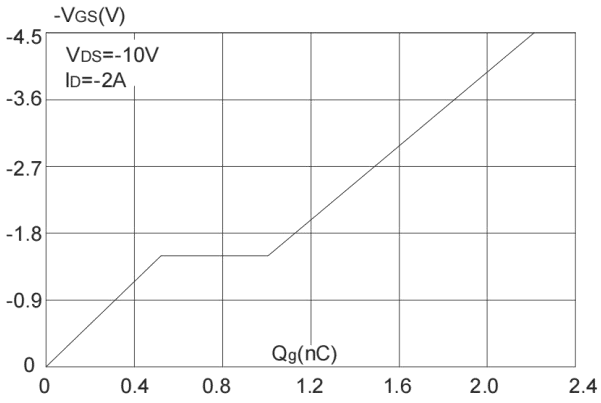
Typical Transfer Characteristics



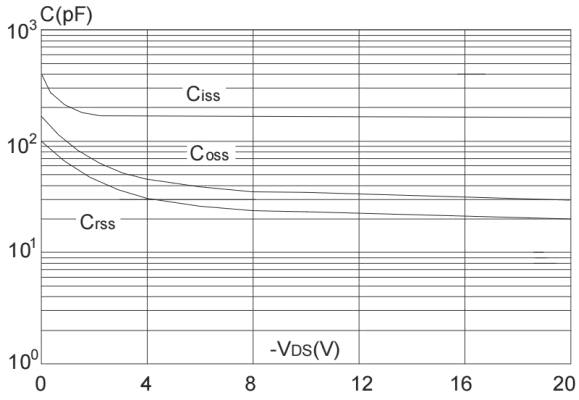
On-resistance vs . Drain Current



Body Diode Characteristics

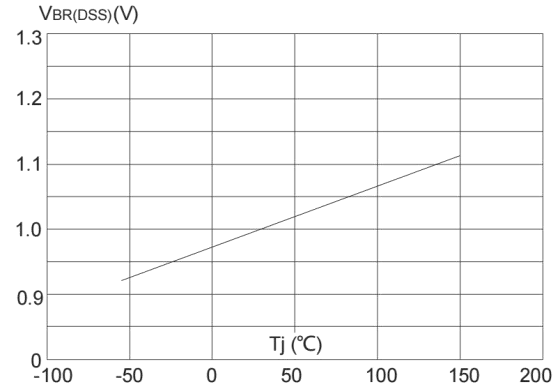


Gate Charge Characteristics



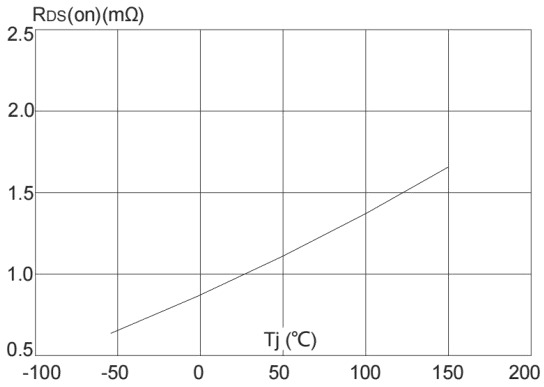
Capacitance Characteristics

Electrical Characteristic Curve



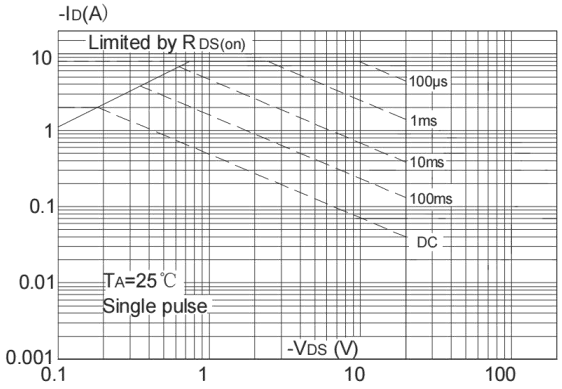
Normalized Breakdown Voltage vs.

Junction Temperature

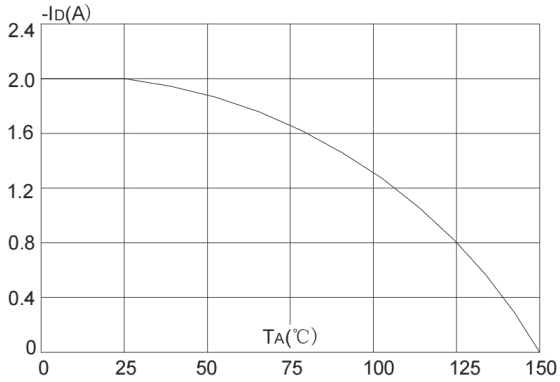


Normalized on Resistance vs.

Junction Temperature

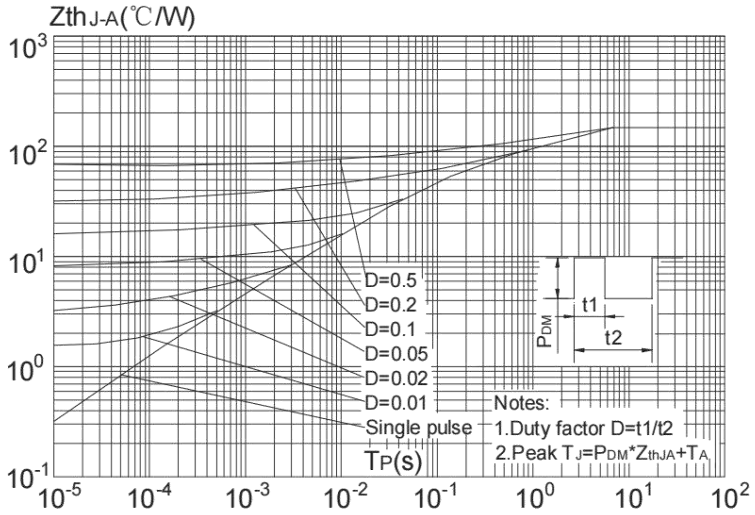


Maximum Safe Operating Area



Maximum Continuous Drain Current vs.

Case Temperature



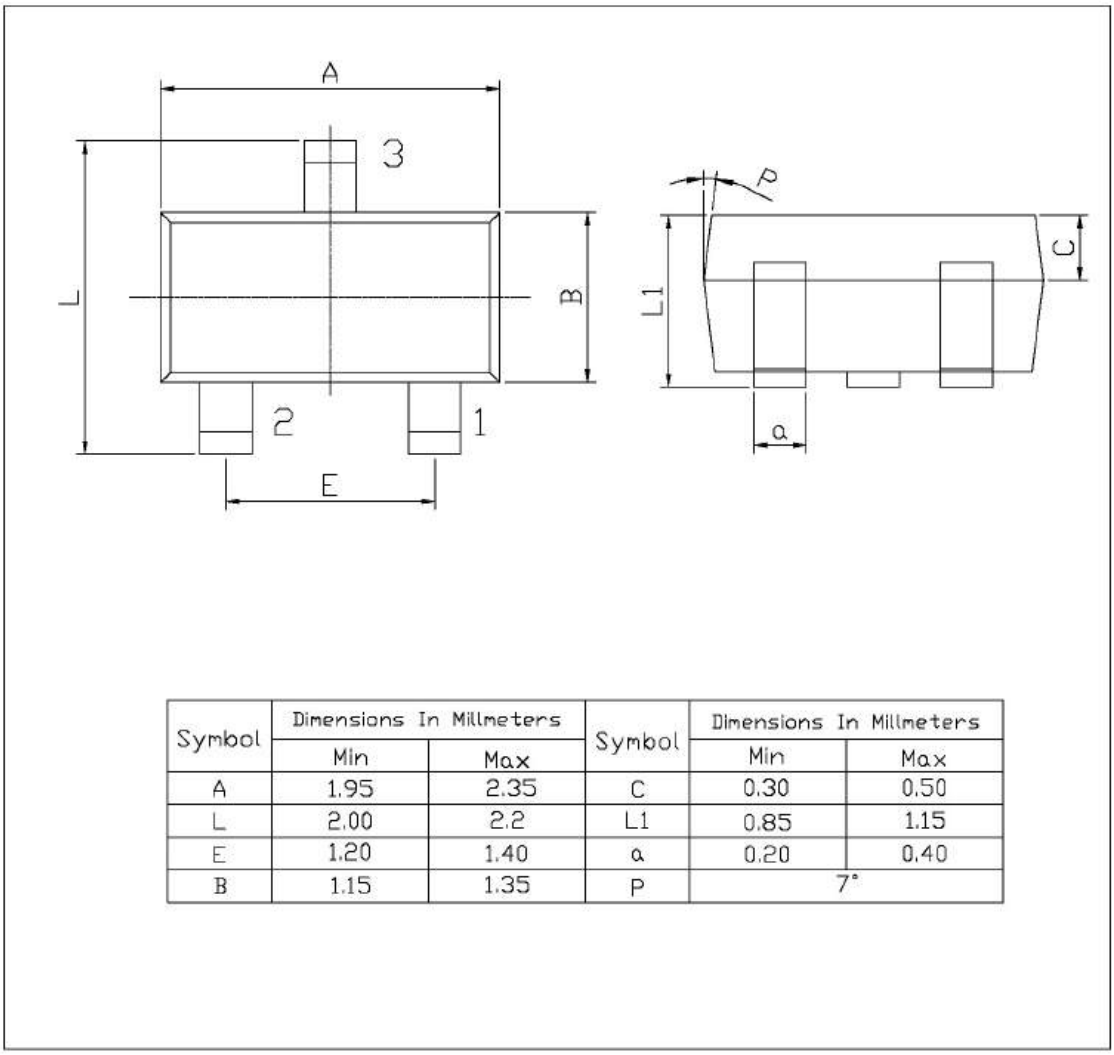
Maximum Effective Transient

Thermal Impedance, Junction-to-Case

Dimension outline

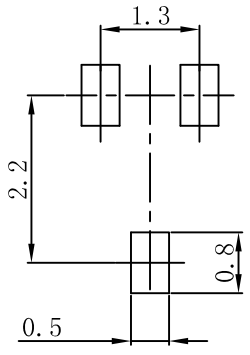
Unit:mm

SOT-323

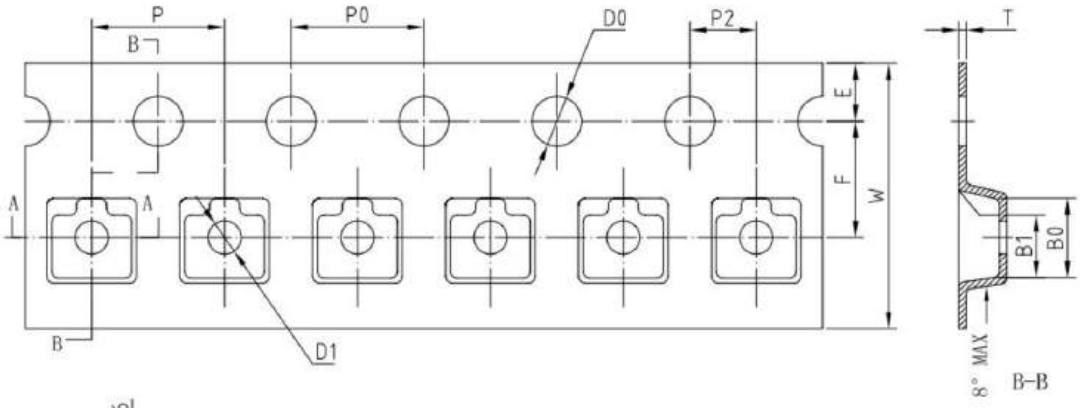


Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
A	1.95	2.35	C	0.30	0.50
L	2.00	2.2	L1	0.85	1.15
E	1.20	1.40	a	0.20	0.40
B	1.15	1.35	P	7°	

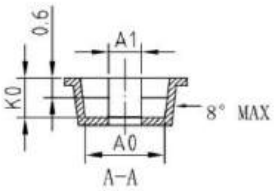
SOT-323 Suggested Pad Layout



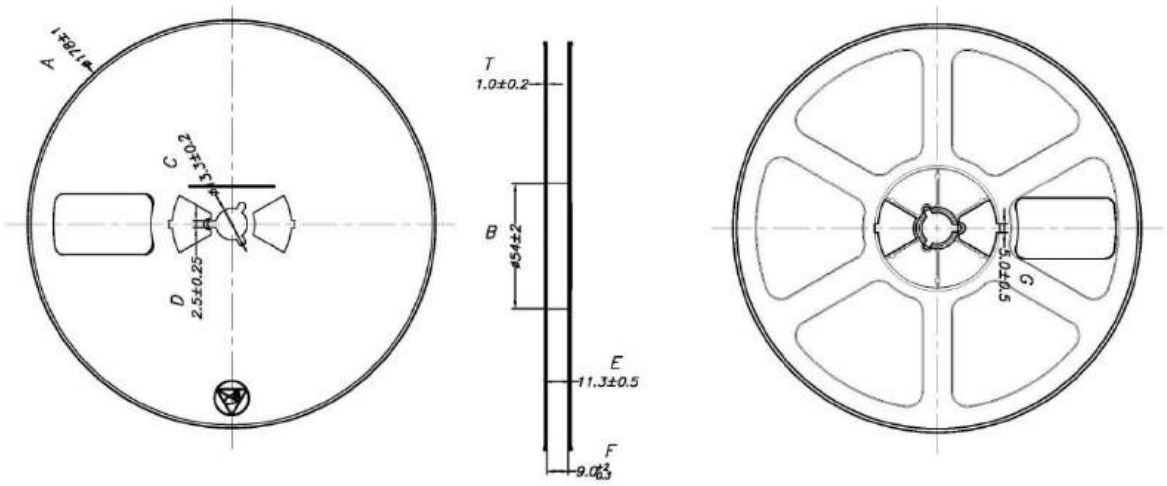
Packaging Information







SYMBOL	A0	A1	B0	B1	P0	P	P2
SPEC	2.40±0.10	1.00±0.10	2.40±0.10	1.90±0.10	4.00±0.10	4.00±0.10	2.00±0.05
SYMBOL	K0	T	E	F	D0	D1	W
SPEC	1.20±0.10	0.20±0.02	1.75±0.10	3.50±0.05	1.55±0.05	1.10±0.10	8.00±0.10



A±1	B±2	C±0.2	D±0.25	E±0.5	$F^{+2}_{-0.3}$	G±0.5	T±0.2
Ø178	Ø54	Ø13.3	2.5	11.3	9.0	5.0	1.0