

P 沟道增强型场效应管

■ 产品概述

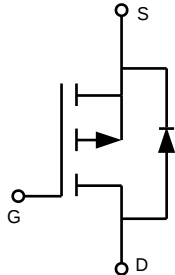
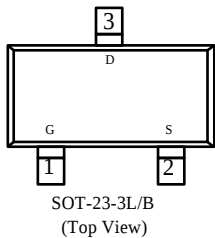
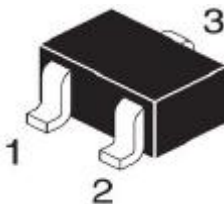
V _{DSS}	I _D	R _{DS(ON)} (mΩ)TYP
-30V	-4.4A	52 @ V _{GS} =-10V
		65 @ V _{GS} =-4.5V

■ 产品特点

- 低导通电阻
- 高可靠性
- 驱动要求简单
- 采用 SOT-23-3L/B 封装

■ 封装

● SOT-23-3L/B



■ 订购信息

产品型号	储存温度	封装形式	每卷数量
JTML2311	-55°C to +150°C	SOT-23-3L/B	3000
	-55°C to +150°C	SOT-89-3	3000

■ 绝对最大额定值

TA=25℃（除非特别说明）

参数	符号	极限值	单位
最大漏源电压	V _{DS}	-30	V
最大栅源电压	V _{GS}	±20	V
结温 125℃下，最大漏极电流	I _D	-4.4	A
最大漏极脉冲电流	I _{DM}	-30	A
最大功耗	P _D	1.25	W
工作温度范围	T _j	-55—150	℃

■ 电气特性

(TA=25℃ unless otherwise noted)

参数	符号	条件	最小	典型	最大	单位
关态特性						
漏源击穿电压	BV _{DSS}	V _{GS} =0V, I _D =-250μA	-30			V
零栅压漏电流	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	μA
栅-衬漏电流	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
开态特性						
栅极阈值电压	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.7	-1	-1.5	V
漏源通态电阻	R _{DS(ON)}	V _{GS} =-10V, I _D =-4.2A		45	52	mΩ
		V _{GS} =-4.5V, I _D =-4A		58	65	
正向跨导	g _{fs}	V _{GS} =-5V, I _D =-5A		10		S
动态参数						
输入电容	C _{ISS}	V _{DS} =-15V ,V _{GS} =0V f=1.0MHz		950		pF
输出电容	C _{OSS}			115		
反向传输电容	C _{RSS}			75		
开关特性						
开通延迟时间	t _{D(ON)}	V _{DD} =-15V I _D =-3.2A V _{GEN} =-10V R _{GEN} =6ohm		7		ns
上升时间	t _r			3		
关断延迟时间	t _{D(OFF)}			30		
下降时间	t _f			12		
栅极总电荷	Q _g	V _{DS} =-15V,I _D =-4A V _{GS} =-4.5V		9.5		nC
栅源电荷	Q _{gs}			2		
栅漏电荷	Q _{gd}			3		
漏源二极管特征参数						
漏源二极管正向电压	V _{SD}	V _{GS} =0V,I _S =-1 A		-0.81	-1.2	V

■ 温度特性

热电阻 结温—环境温度	R _{th JA}	100	℃/W
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特性曲线

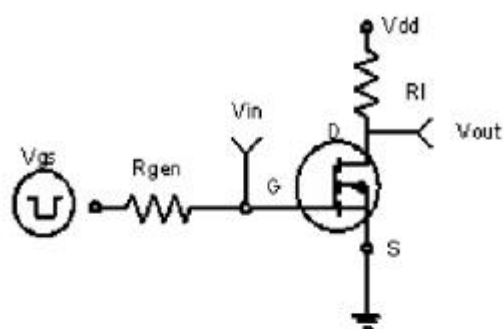


Figure 1: Switching Test Circuit

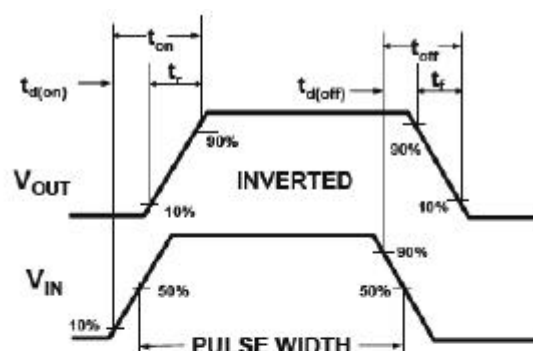


Figure 2: Switching Waveforms

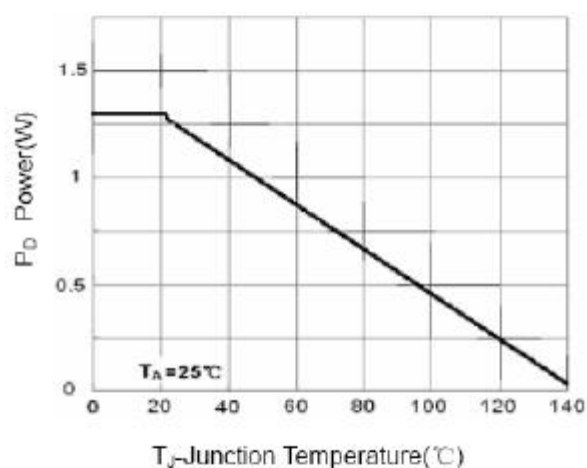


Figure 3 Power Dissipation

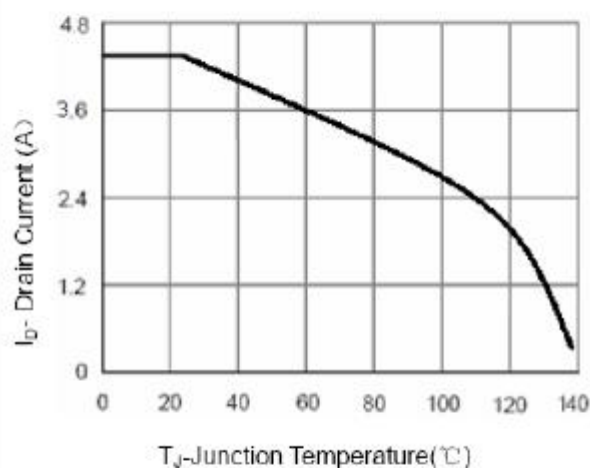


Figure 4 Drain Current

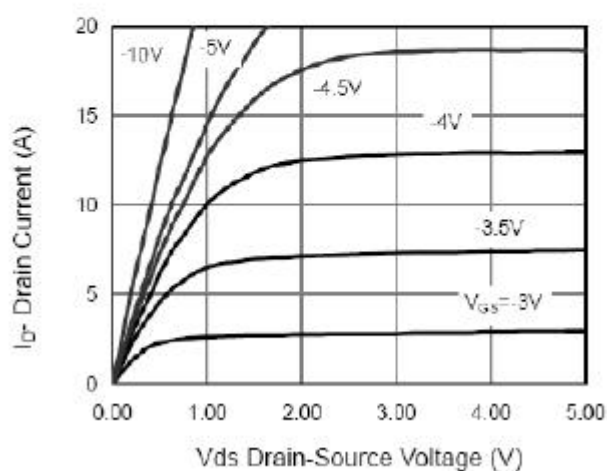


Figure 5 Output CHARACTERISTICS

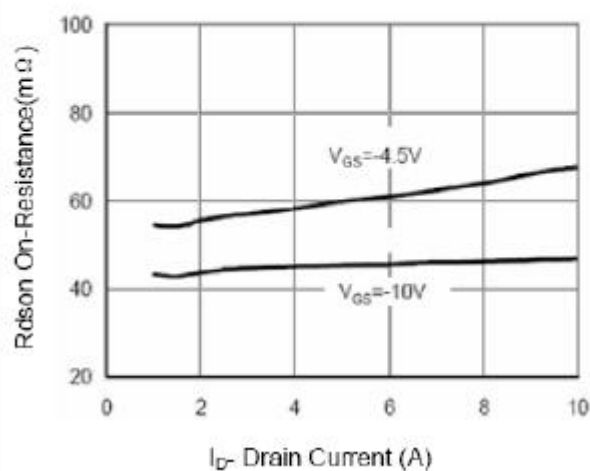


Figure 6 Drain-Source On-Resistance

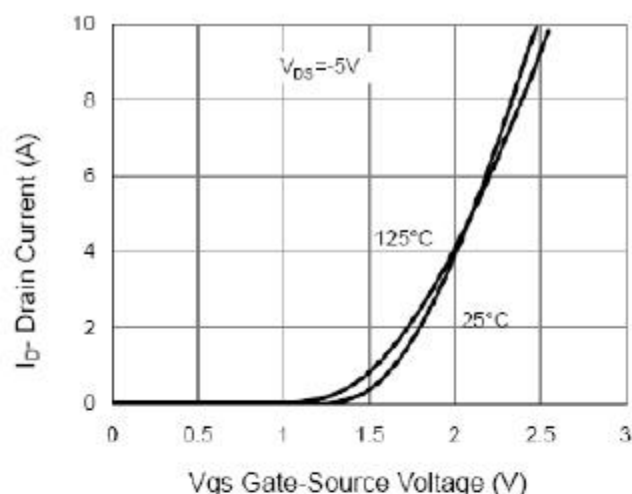


Figure 7 Transfer Characteristics

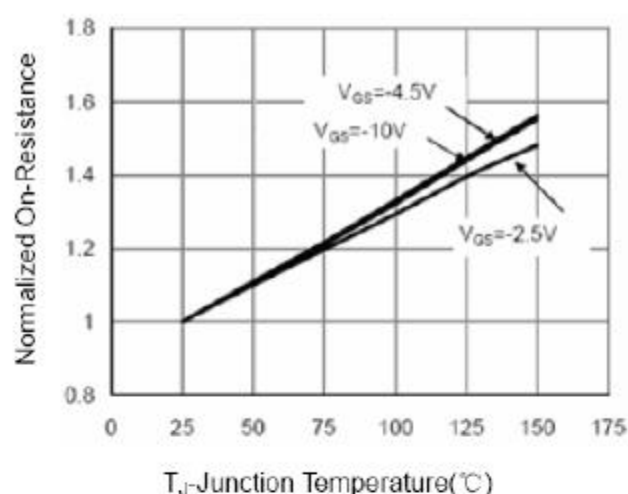


Figure 8 Drain-Source On-Resistance

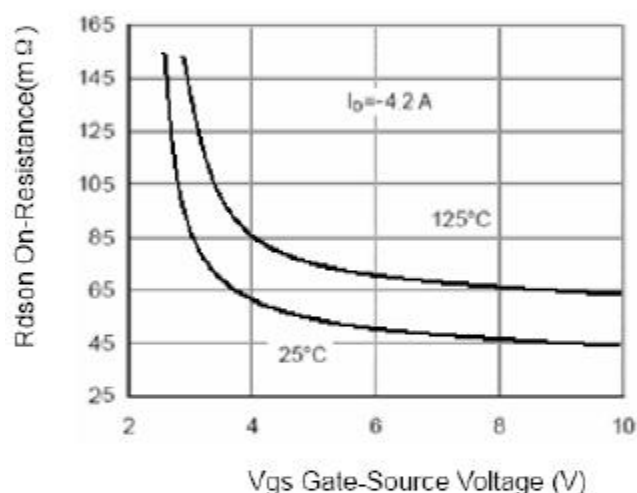
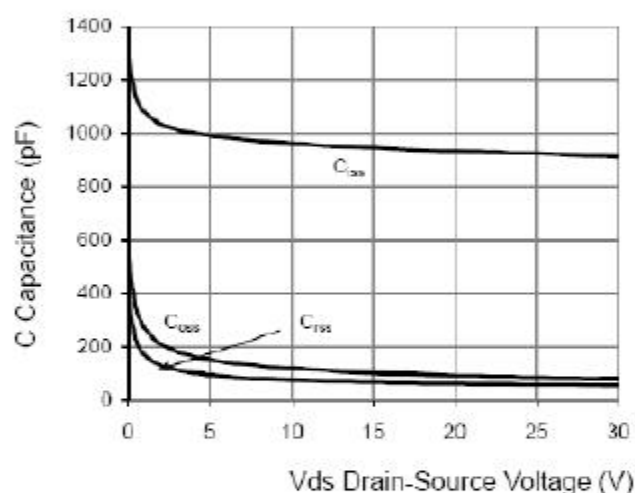
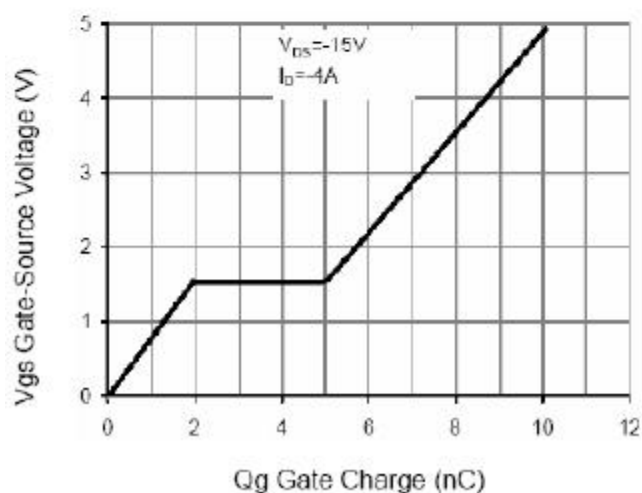
Figure 9 $R_{DS(on)}$ vs V_{GS} Figure 10 Capacitance vs V_{DS} 

Figure 11 Gate Charge

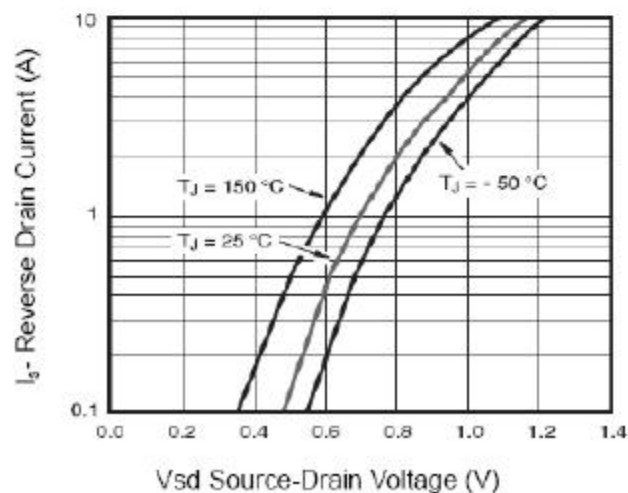


Figure 12 Source-Drain Diode Forward

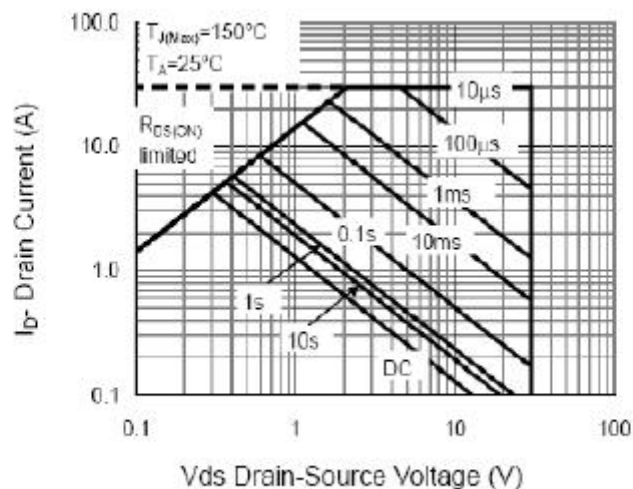


Figure 13 Safe Operation Area

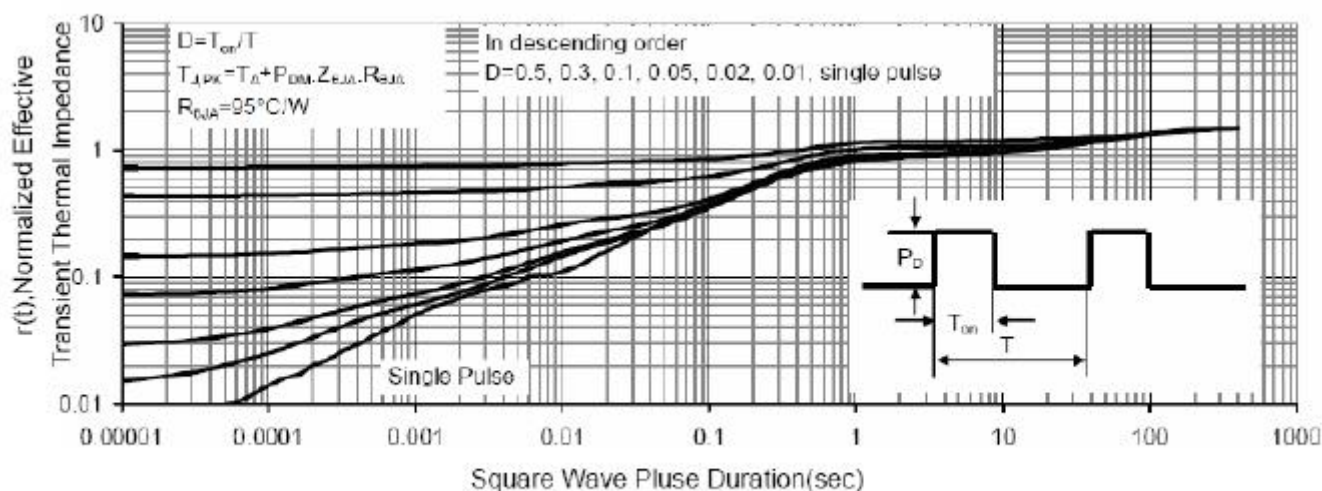
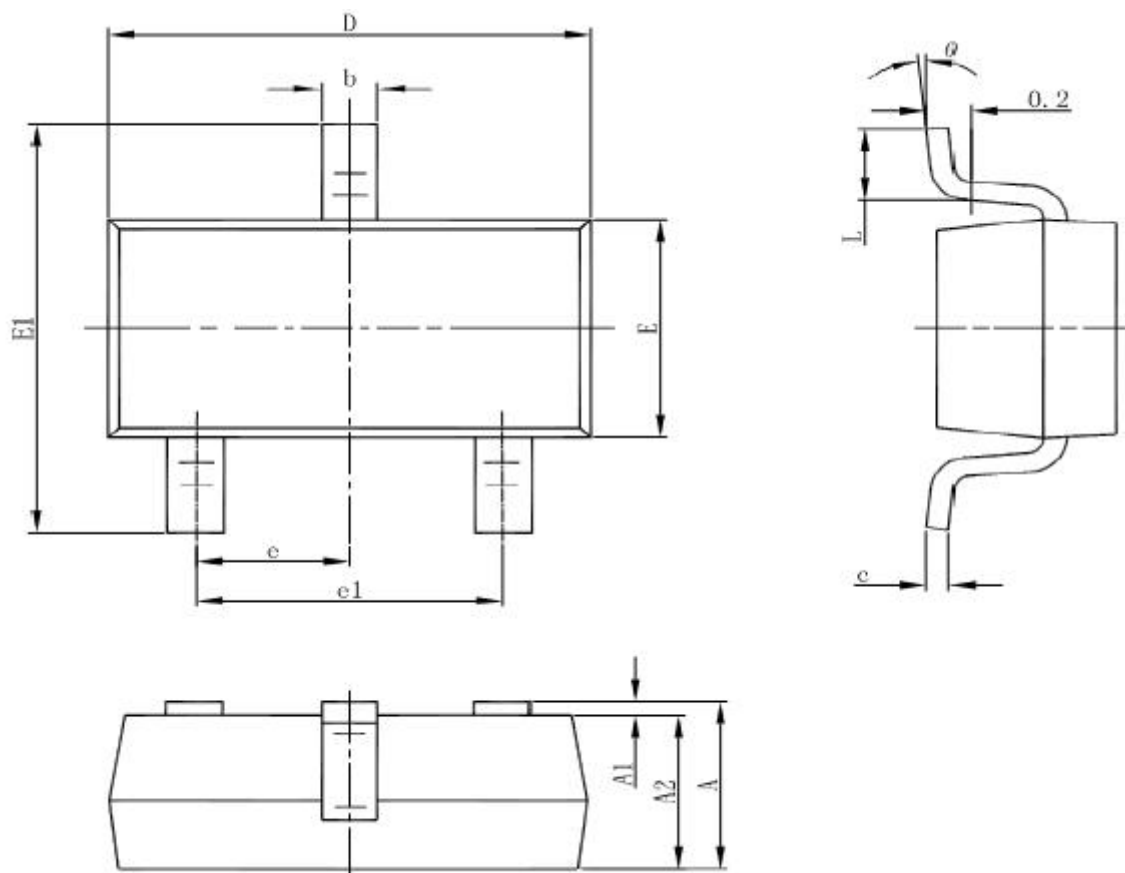


Figure 14 Normalized Maximum Transient Thermal Impedance

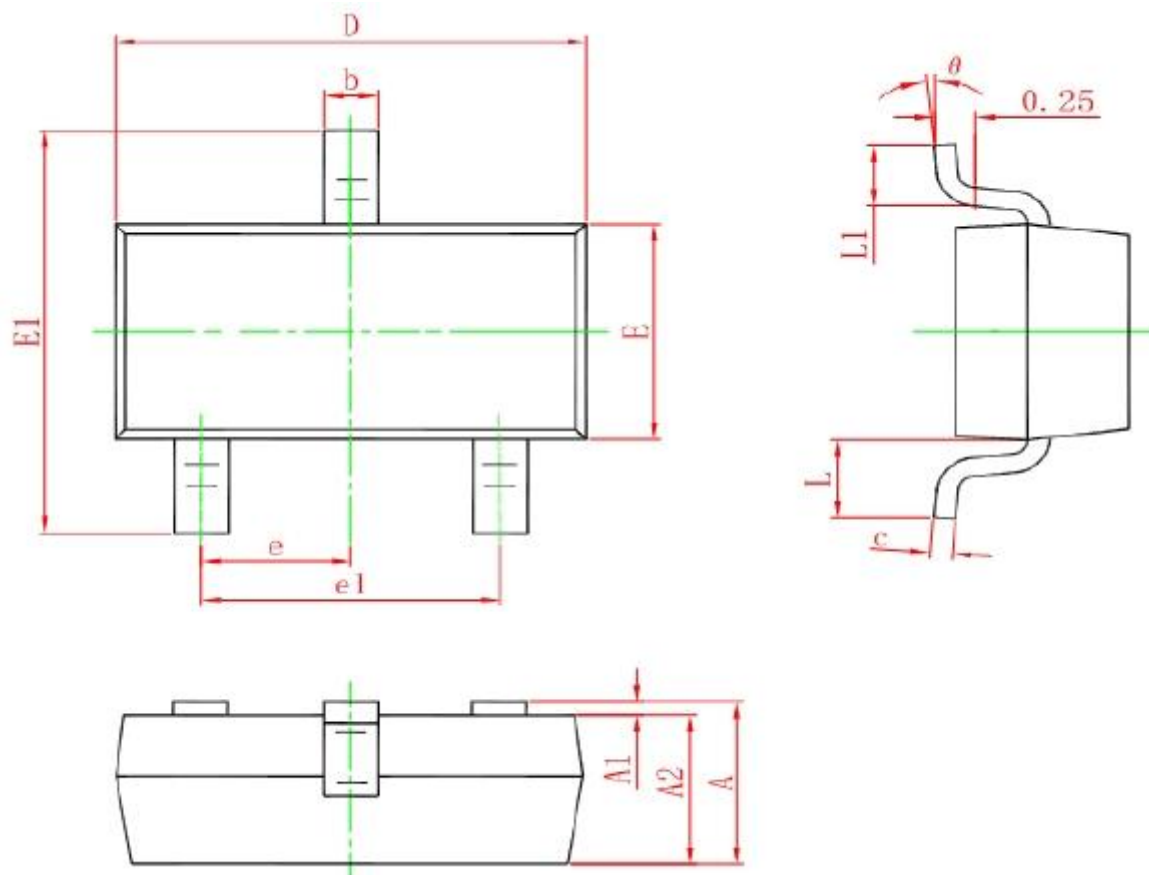
■ 封装形式

● SOT-23-3L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

● SOT-23-3B



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°