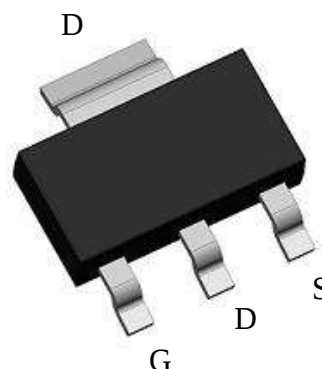


P-Channel Enhancement Mode Power MOSFET

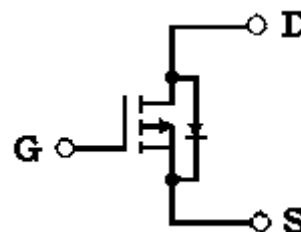
Features:

- Low Gate Charge
- Simple Drive Requirement
- Pb-free lead plating & Halogen-free package

SOT-223



BV_{DSS}	-100V
$I_D @ T_A=25^{\circ}C, V_{GS}=-10V$	-2.6A
$R_{DS(on)}@V_{GS}=-10V, I_D=-2A$	187m Ω (typ)
$R_{DS(on)}@V_{GS}=-4.5V, I_D=-1A$	185m Ω (typ)



G : Gate D : Drain S :
Source

Ordering Information

Device	Package	Shipping
KLBB0P10	SOT-223 (Pb-free lead plating & Halogen-free package)	2500 pcs / Tape & Reel

Absolute Maximum Ratings (T_c=25°C, unless otherwise noted)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V _{DS}	-100	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current @ V _{GS} =-10V, T _A =25°C	I _D	-2.6	A
Continuous Drain Current @ V _{GS} =-10V, T _A =70°C		-2.1	
Pulsed Drain Current *1	I _{DM}	-10.4	
Avalanche Current	I _{AS}	-2	mJ
Avalanche Energy @ L=6mH, I _D =-2A, R _G =25Ω	E _{AS}	12	
Repetitive Avalanche Energy @ L=0.05mH *2	E _{AR}	0.5	W
Total Power Dissipation @T _A =25°C	P _D	2.5	
Total Power Dissipation @T _A =70°C		1.6	
Operating Junction and Storage Temperature Range	T _j , T _{stg}	-55~+150	°C

Note : *1. Pulse width limited by maximum junction temperature

*2. Duty cycle ≤ 1%

Thermal Data

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-case, max	R _{th,j-c}	15	°C/W
Thermal Resistance, Junction-to-ambient, max	R _{th,j-a}	50 (Note)	

Note : Surface mounted on a 1 in² pad of 2 oz. copper, t≤10s; 120 °C/W when mounted on minimum copper pad.

Characteristics (T_c=25°C, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV _{DSS}	-100	-	-	V	V _{GS} =0V, I _D =-250μA
V _{GS(th)}	-1	-	-3		V _{DS} =V _{GS} , I _D =-250μA
I _{GSS}	-	-	±100	nA	V _{GS} =±20V, V _{DS} =0V
I _{DSS}	-	-	-1	μA	V _{DS} =-80V, V _{GS} =0V
	-	-	-25		V _{DS} =-70V, V _{GS} =0V, T _J =125°C
R _{DS(ON)} *1	-	187	225	mΩ	V _{GS} =-10V, I _D =-2A
	-	185	245		V _{GS} =-4.5V, I _D =-1A
G _{FS} *1	-	6	-	S	V _{DS} =-5V, I _D =-2A
Dynamic					
Q _g *1, 2	-	25.8	-	nC	I _D =-2A, V _{DS} =-80V, V _{GS} =-10V
Q _{gs} *1, 2	-	3.4	-		
Q _{gd} *1, 2	-	3.8	-		
t _{d(ON)} *1, 2	-	6.6	-	ns	V _{DS} =-50V, I _D =-2A, V _{GS} =-10V, R _G =1Ω
t _r *1, 2	-	18.8	-		
t _{d(OFF)} *1, 2	-	128.2	-		
t _f *1, 2	-	46.6	-	pF	V _{GS} =0V, V _{DS} =-25V, f=1MHz
C _{iss}	-	1413	-		
C _{oss}	-	50	-		
C _{rss}	-	41	-		

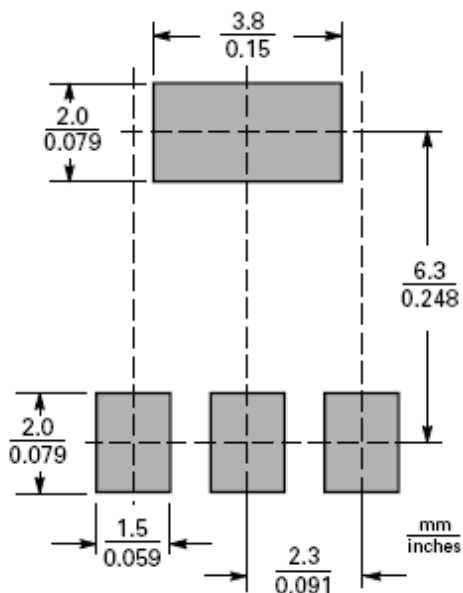
Source-Drain Diode					
I_S *1	-	-	-2.6	A	
I_{SM} *3	-	-	-10.4		
V_{SD} *1	-	-0.81	-1.3	V	$I_S=-2A, V_{GS}=0V$
trr	-	18.4	-	ns	$I_F=-2A, dI_F/dt=100A/\mu s$
Qrr	-	15.8	-	nC	

Note : *1.Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

*2.Independent of operating temperature

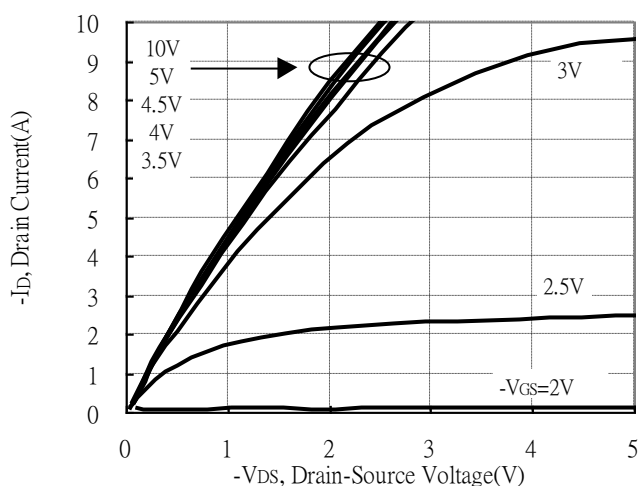
*3.Pulse width limited by maximum junction temperature.

Recommended soldering footprint

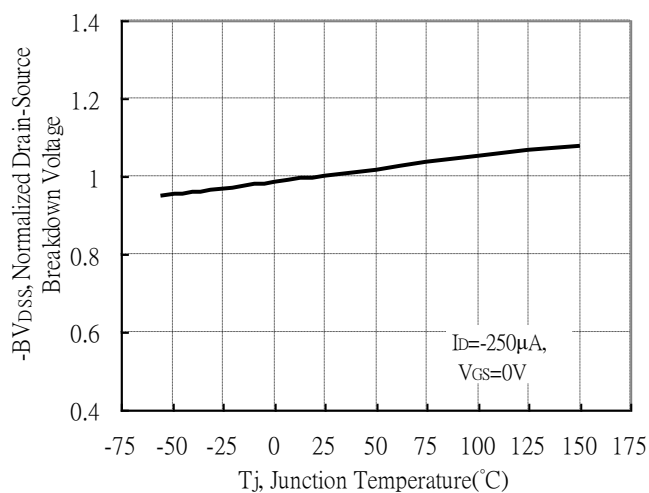


Typical Characteristics

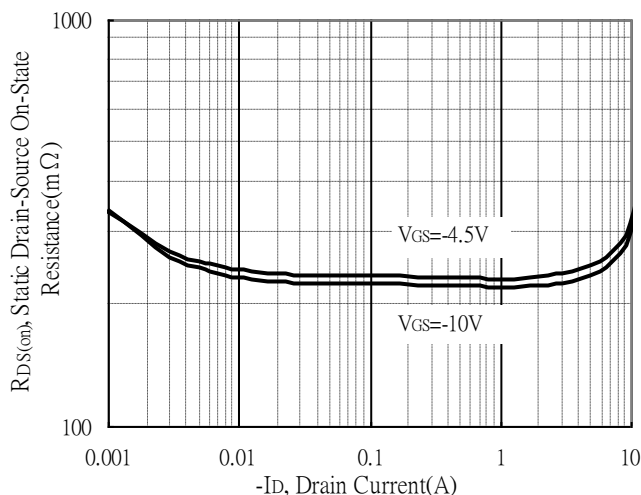
Typical Output Characteristics



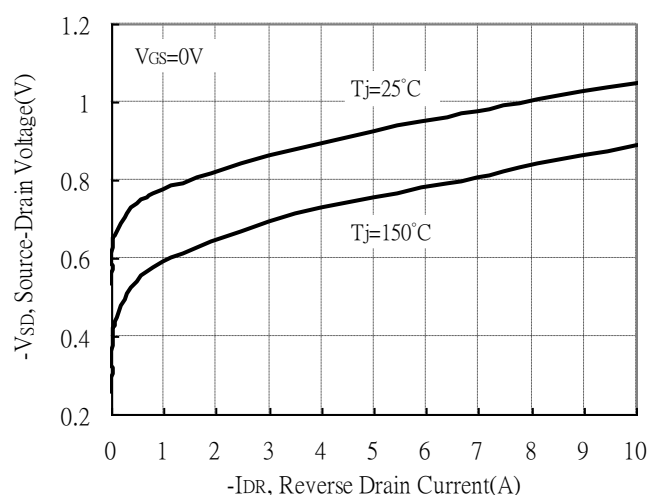
Breakdown Voltage vs Ambient Temperature



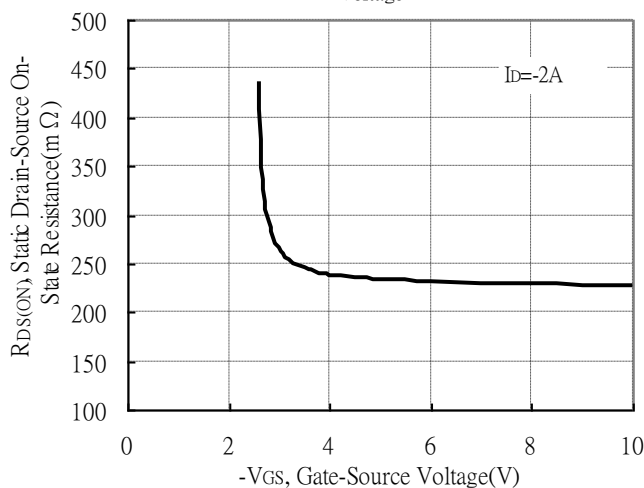
Static Drain-Source On-State resistance vs Drain Current



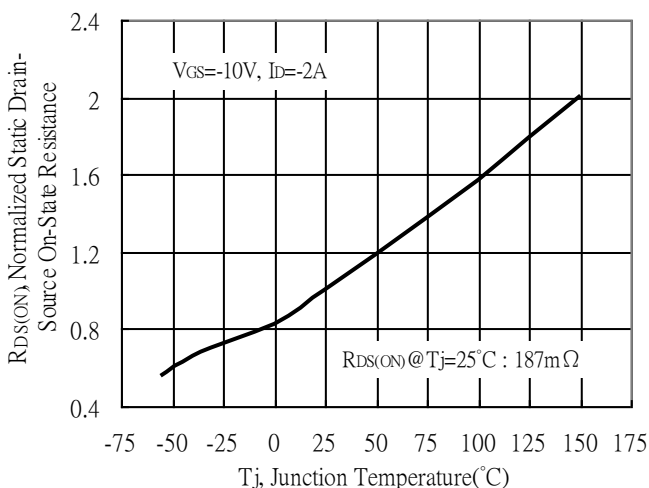
Reverse Drain Current vs Source-Drain Voltage



Static Drain-Source On-State Resistance vs Gate-Source Voltage

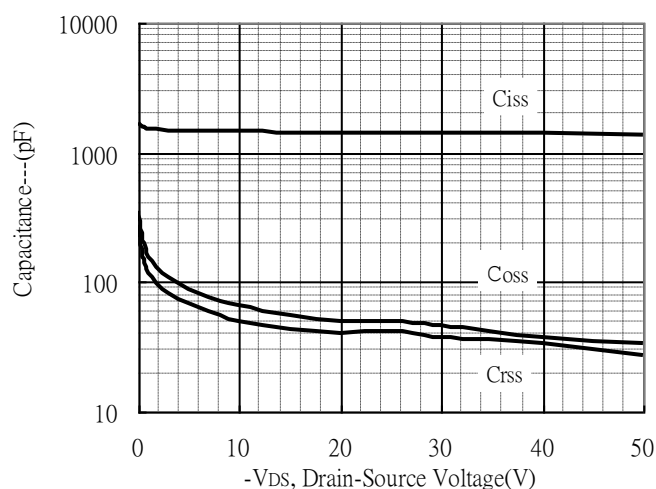


Drain-Source On-State Resistance vs Junction Temperature

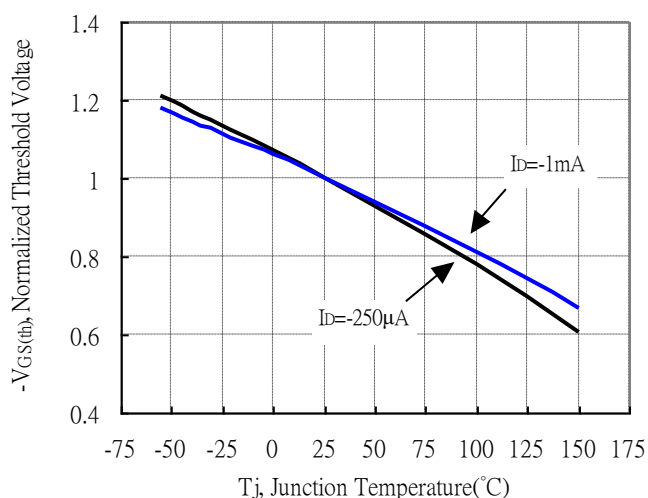


Typical Characteristics(Cont.)

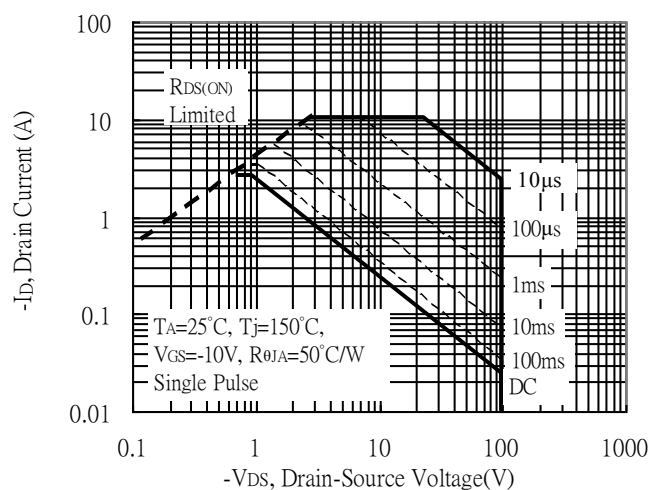
Capacitance vs Drain-to-Source Voltage



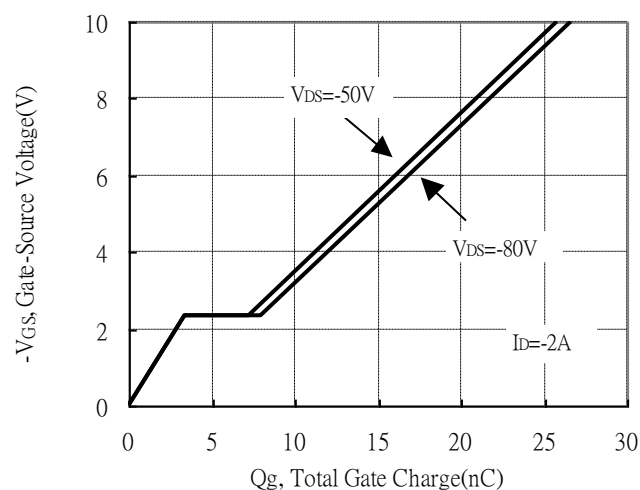
Threshold Voltage vs Junction Temperature



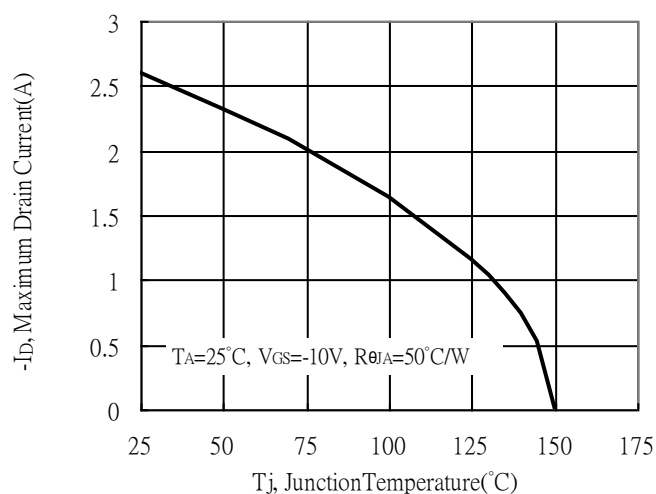
Maximum Safe Operating Area



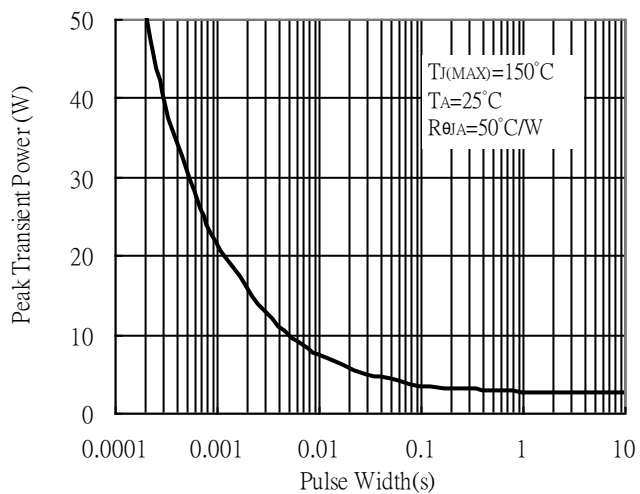
Gate Charge Characteristics



Maximum Drain Current vs Junction Temperature

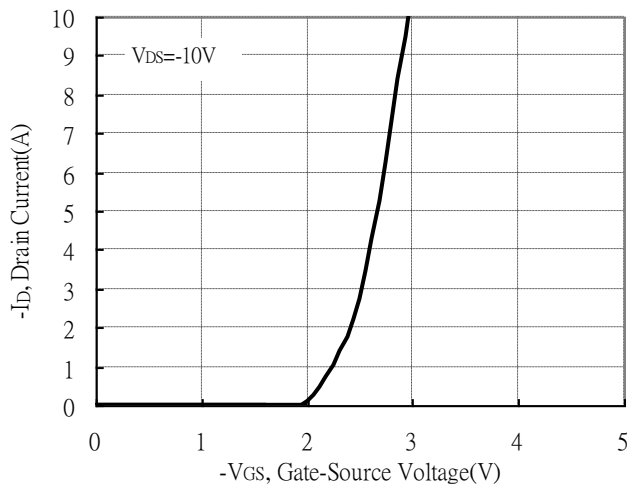


Single Pulse Maximum Power Dissipation

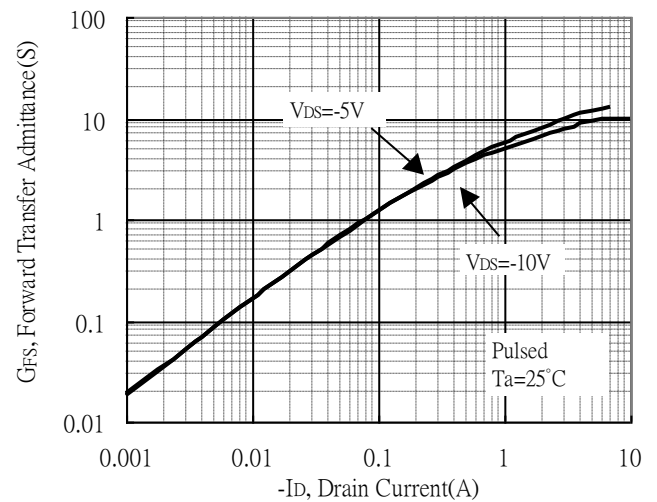


Typical Characteristics(Cont.)

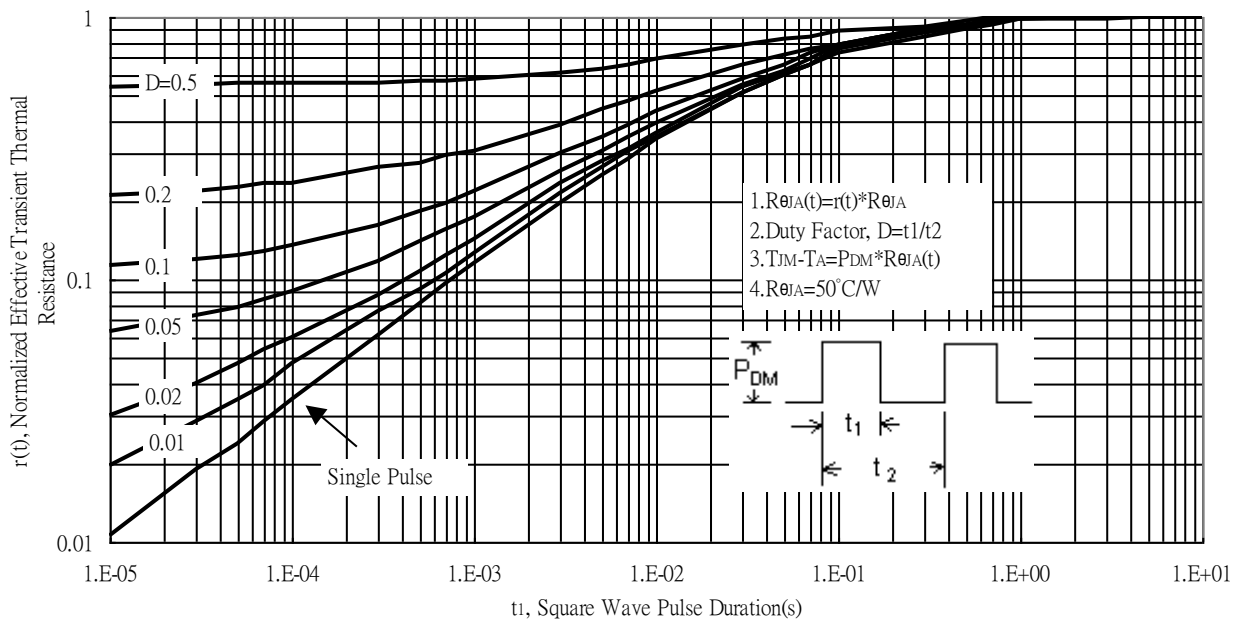
Typical Transfer Characteristics



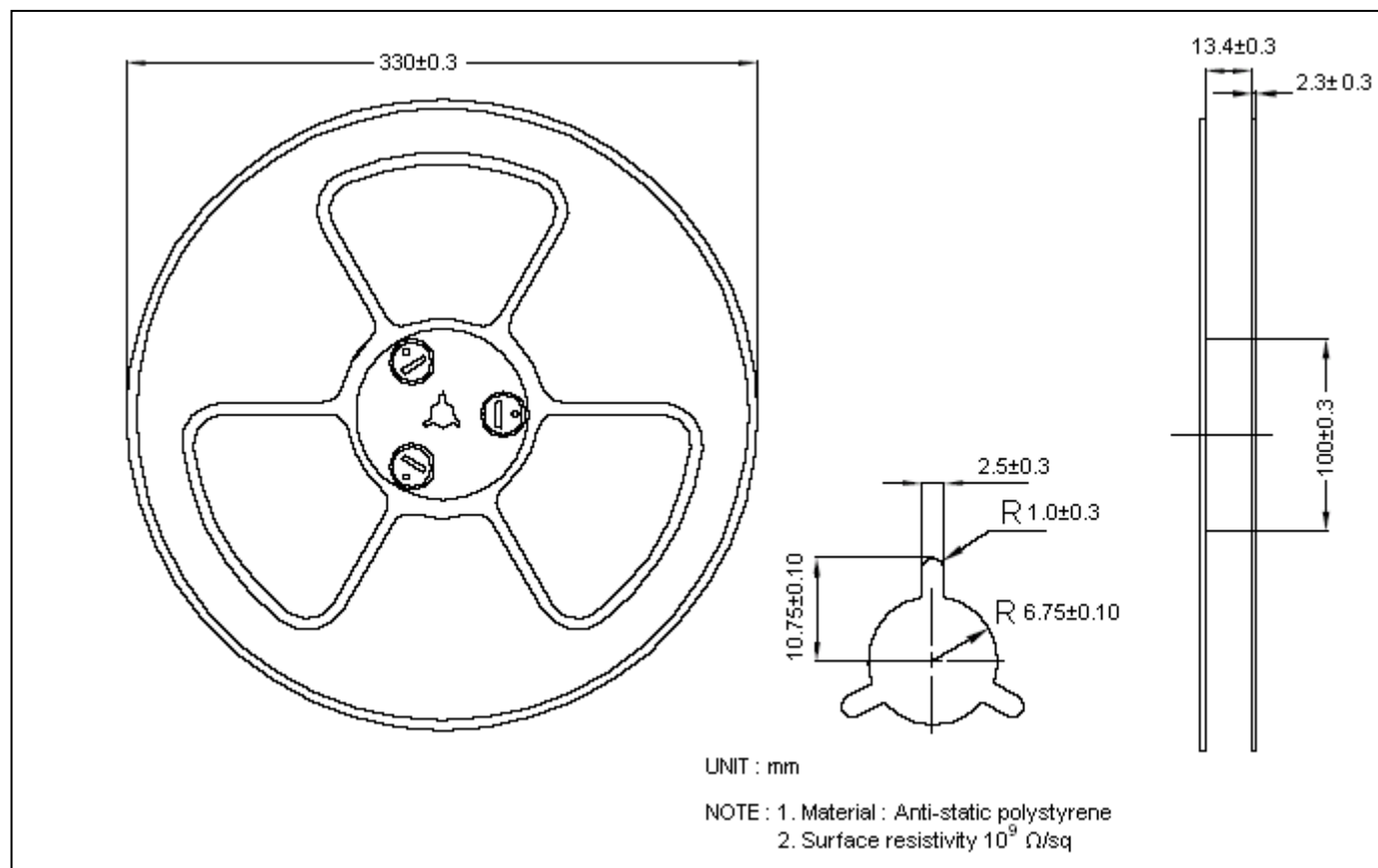
Forward Transfer Admittance vs Drain Current



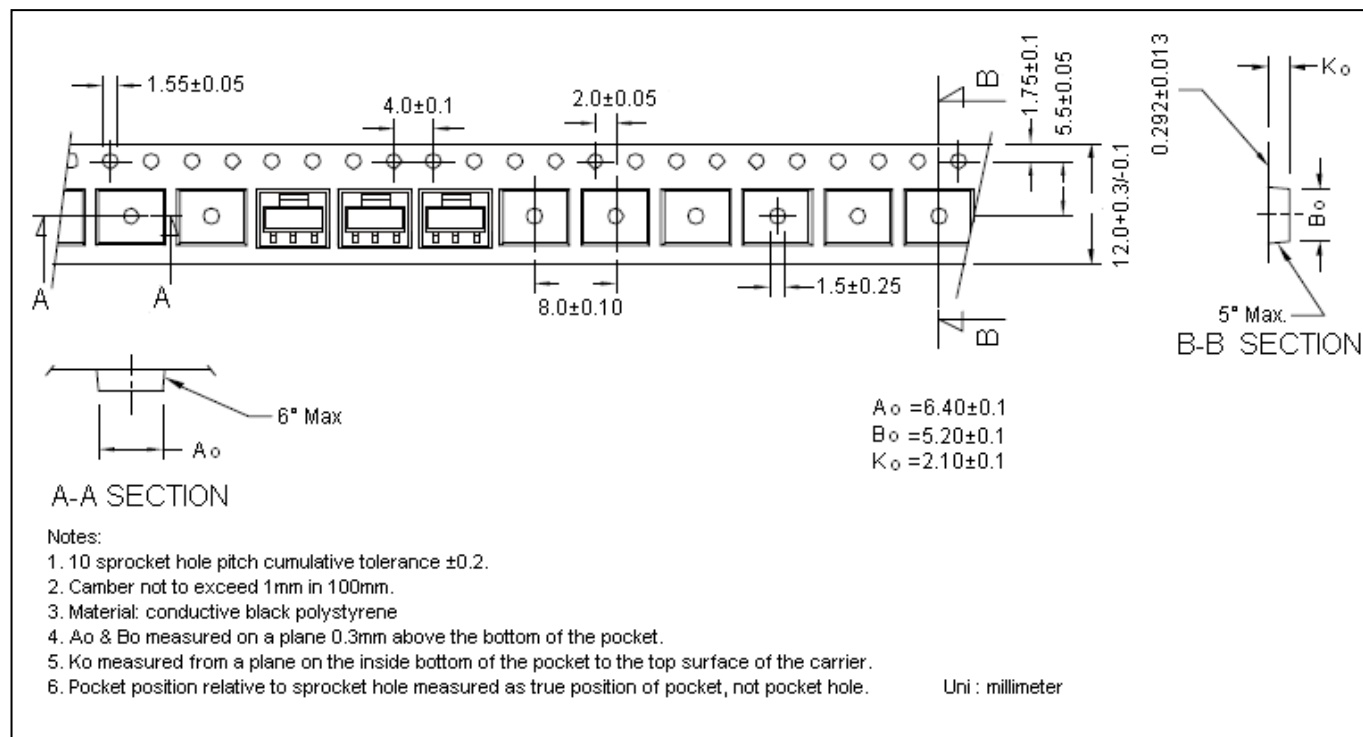
Transient Thermal Response Curves



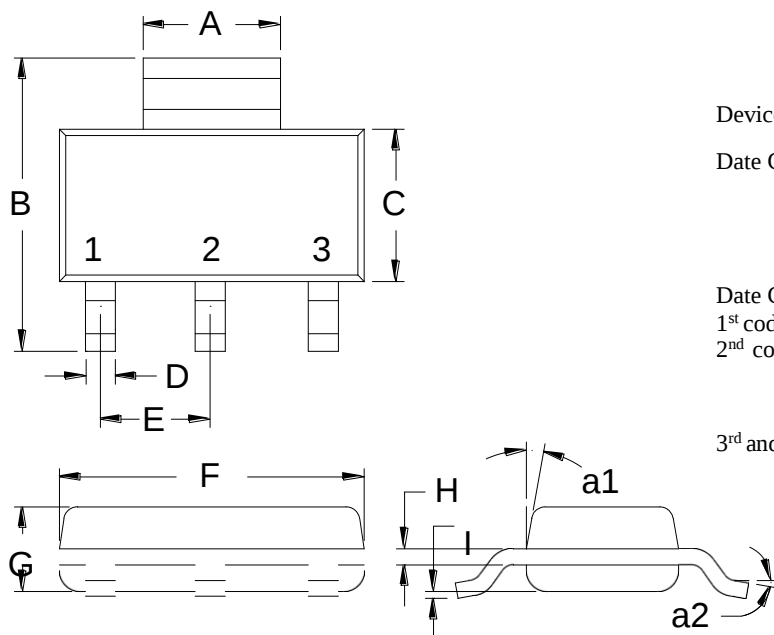
Reel Dimension



Carrier Tape Dimension

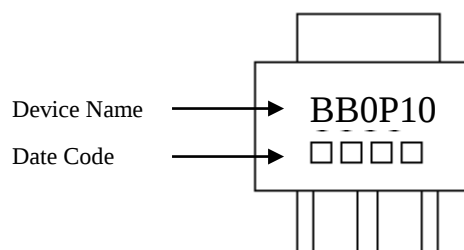


SOT-223 Dimension



Style: Pin 1.Gate 2.Drain 3.Source

Marking:



Date Code(counting from left to right) :
 1st code: year code, the last digit of Christian year
 2nd code : month code, Jan→A, Feb→B, Mar→C, Apr→D, May→E, Jun→F, Jul→G, Aug→H, Sep→J, Oct→K, Nov→L, Dec→M
 3rd and 4th codes : production serial number, 01~99

3-Lead SOT-223 Plastic
 Surface Mounted Package

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1142	0.1220	2.90	3.10	G	0.0551	0.0709	1.40	1.80
B	0.2638	0.2874	6.70	7.30	H	0.0098	0.0138	0.23	0.35
C	0.1299	0.1457	3.30	3.70	I	0.0008	0.0039	0.02	0.10
D	0.0236	0.0315	0.60	0.80	a1	*13°	-	*13°	-
E	*0.0906	-	*2.30	-	a2	0°	10°	0°	10°
F	0.2480	0.2638	6.30	6.70					