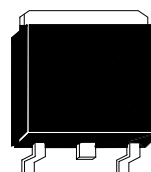


P-Channel Logic Level Enhancement Mode Power MOSFET

TO-252

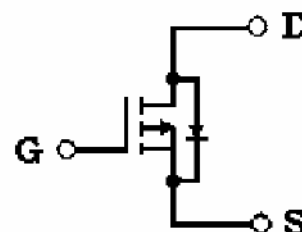
Features:

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



G D S

BV_{DSS}	-60V
I_D	-10A
$R_{DS(on)(MAX)}$	90.8m Ω



G : Gate D : Drain S :
Source

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

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current @ T _C =25°C	I_D	-10	A
Continuous Drain Current @ T _C =100°C	I_D	-7	
Pulsed Drain Current *1	I_{DM}	-40	
Avalanche Current	I_{AS}	-10	mJ
Avalanche Energy @ L=0.1mH, I _D =-10A, R _G =25 Ω	E_{AS}	5	
Repetitive Avalanche Energy @ L=0.05mH *2	E_{AR}	2	W
Total Power Dissipation @ T _C =25°C	P_d	33	
Total Power Dissipation @ T _C =100°C		10	
Operating Junction and Storage Temperature Range	T _j , T _{stg}	-55~+175	°C

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

*2. Duty cycle \leq 1%

Thermal Data

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-case, max	$R_{th,j-c}$	4.5	°C/W
Thermal Resistance, Junction-to-ambient, max	$R_{th,j-a}$	85	°C/W

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

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
V_{DSS}	-60	-	-	V	$V_{GS}=0, I_D=-250\mu A$
$V_{GS(th)}$	-1	-1.8	-3	V	$V_{DS}=V_{GS}, I_D=-250\mu A$
I_{GSS}	-	-	± 100	nA	$V_{GS}=\pm 20, V_{DS}=0$
I_{DSS}	-	-	-1	μA	$V_{DS}=-32V, V_{GS}=0$
	-	-	-25	μA	$V_{DS}=-30V, V_{GS}=0, T_J=125^\circ C$
$I_{D(ON) *1}$	-10	-	-	A	$V_{DS}=-5V, V_{GS}=-4.5V$
$R_{DS(ON) *1}$	-	82	90.8	$m\Omega$	$V_{GS}=-10V, I_D=-10A$
	-	120	140	$m\Omega$	$V_{GS}=-5V, I_D=-8A$
$G_{FS} *1$	-	9	-	S	$V_{DS}=-5V, I_D=-10A$
Dynamic					
$Q_g *1, 2$	-	16.2	-	nC	$I_D=-10A, V_{DS}=-30V, V_{GS}=-10V$
$Q_{gs} *1, 2$	-	2	-		
$Q_{gd} *1, 2$	-	3.5	-		
$t_{d(ON) *1, 2}$	-	8	-	ns	$V_{DS}=-10V, I_D=-1A, V_{GS}=-10V, R_G=6\Omega$
$t_r *1, 2$	-	12	-		
$t_{d(OFF) *1, 2}$	-	20	-		
$t_f *1, 2$	-	12	-		
C_{iss}	-	1980	-	pF	$V_{GS}=0V, V_{DS}=-25V, f=1MHz$
C_{oss}	-	665	-		
C_{rss}	-	645	-		
R_g	-	6.8	-	Ω	$V_{GS}=15mV, V_{DS}=0, f=1MHz$
Source-Drain Diode					
$I_S *1$	-	-	-10	A	
$I_{SM} *3$	-	-	-40		
$V_{SD} *1$	-	-	-1.3	V	$I_F=I_S, V_{GS}=0V$
t_{rr}	-	12	-	ns	$I_F=-5A, dI_F/dt=100A/\mu s$
Q_{rr}	-	9	-	nC	

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

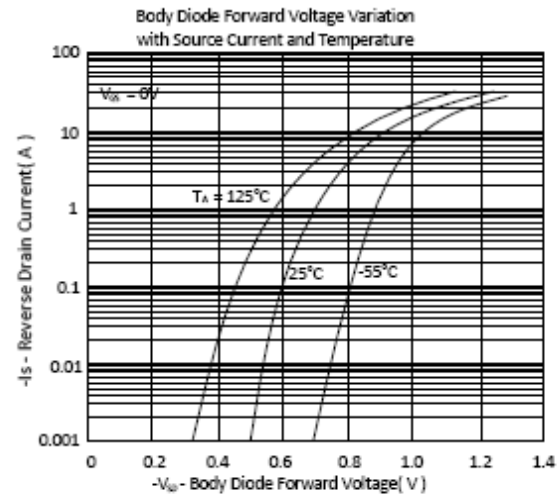
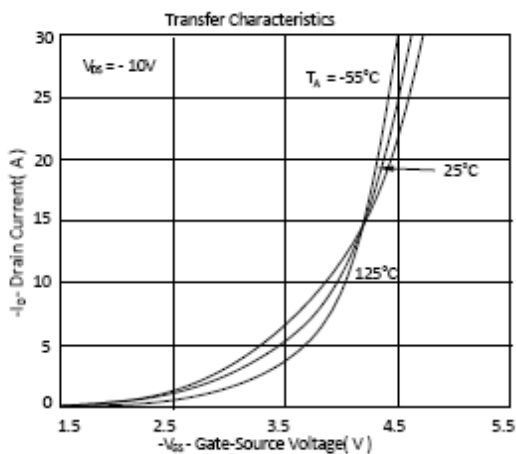
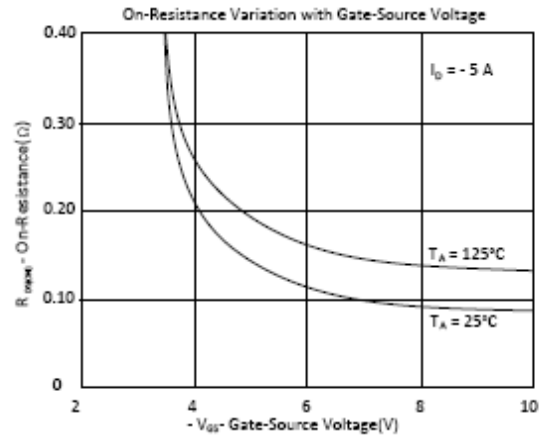
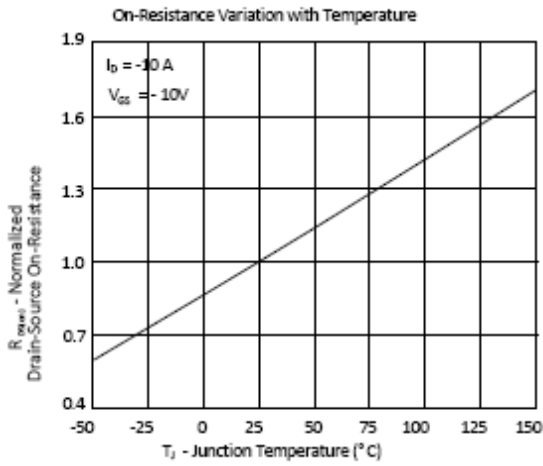
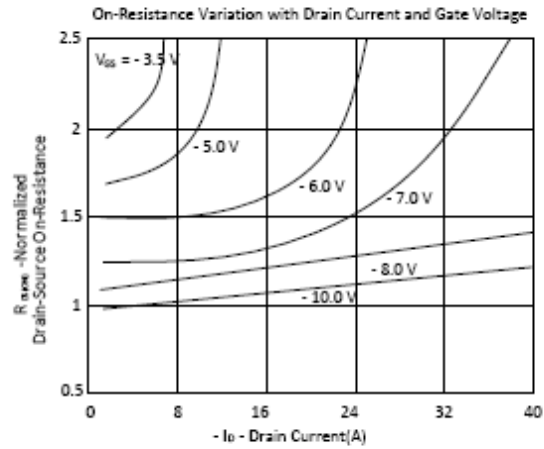
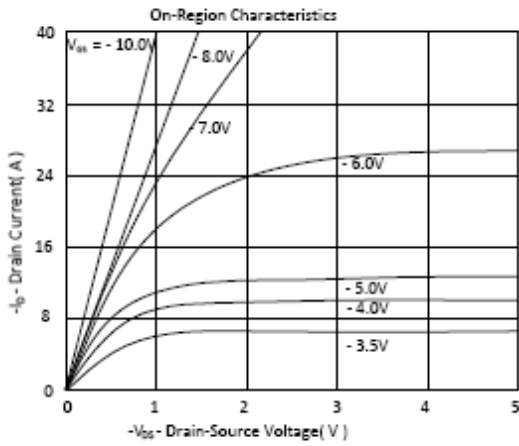
*2.Independent of operating temperature

*3.Pulse width limited by maximum junction temperature.

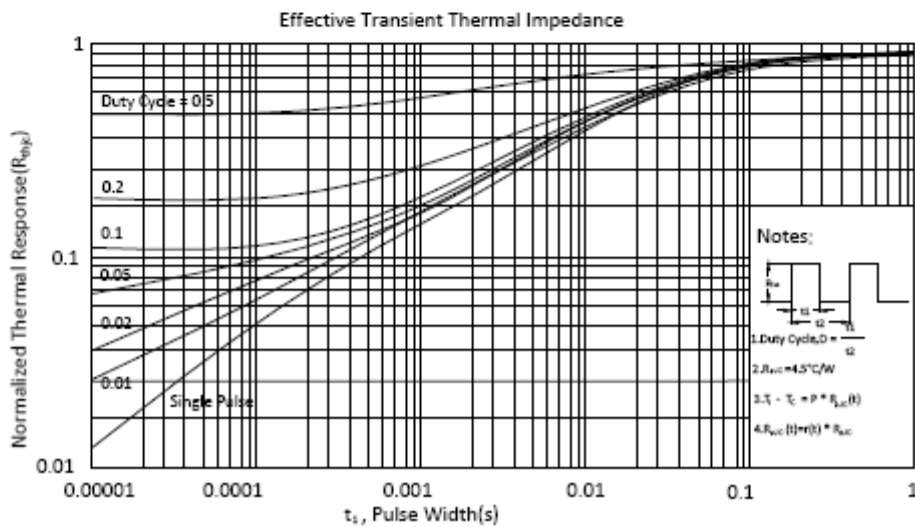
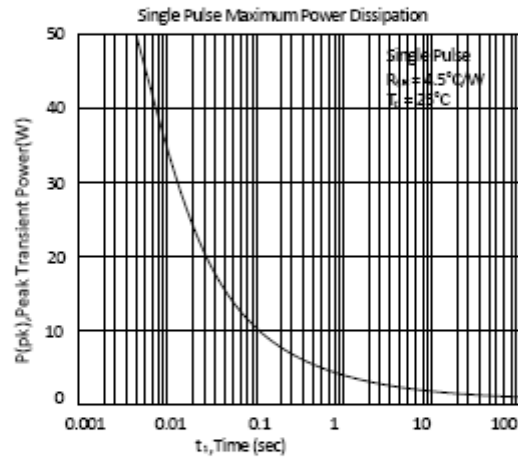
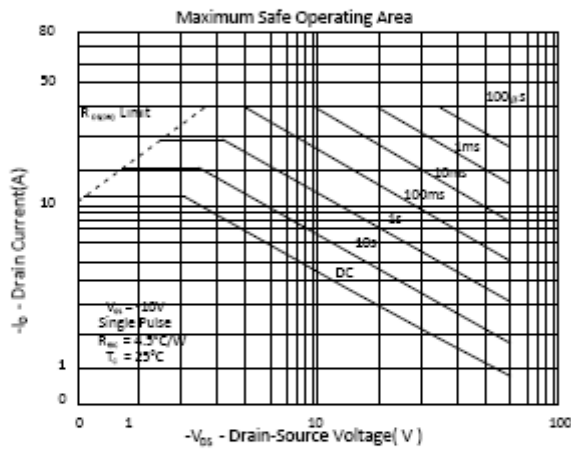
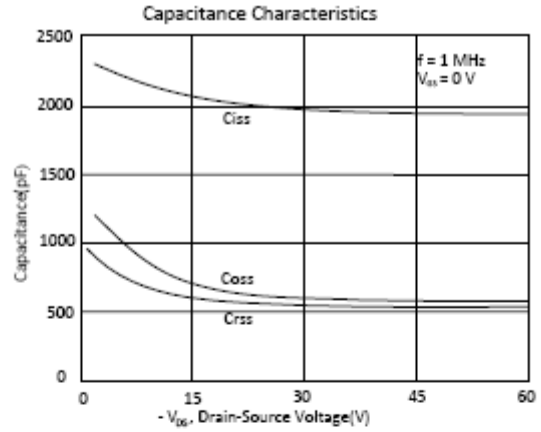
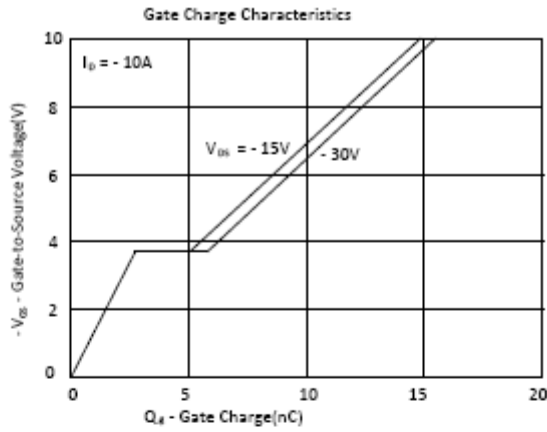
Ordering Information

Device	Package	Shipping	Marking
KJB90P06	TO-252 (Pb-free lead plating & Halogen-free package)	2500 pcs / Tape & Reel	B90P06

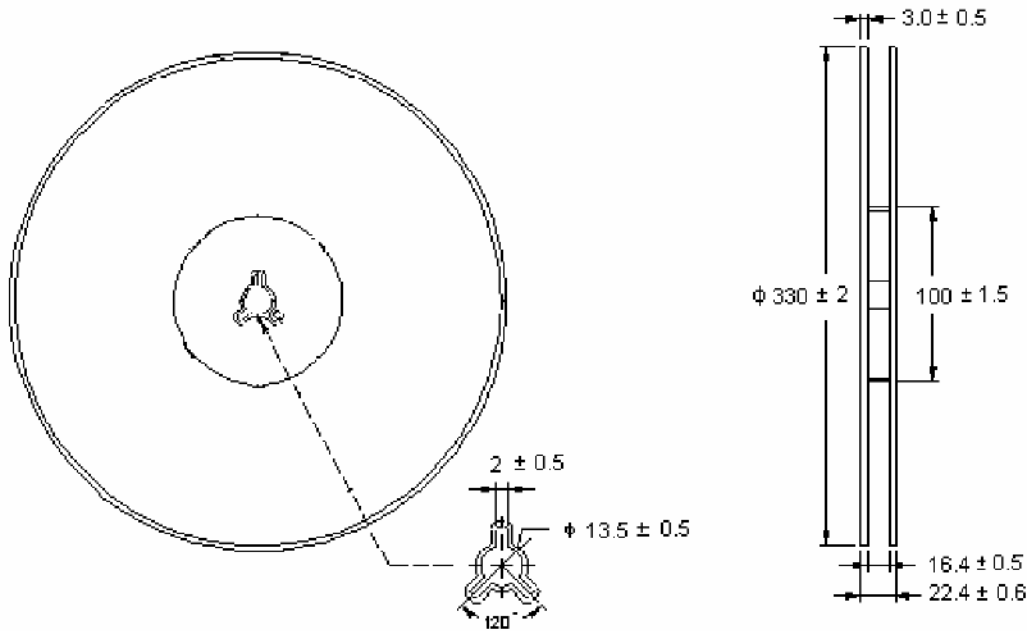
Characteristic Curves



Characteristic Curves(Cont.)

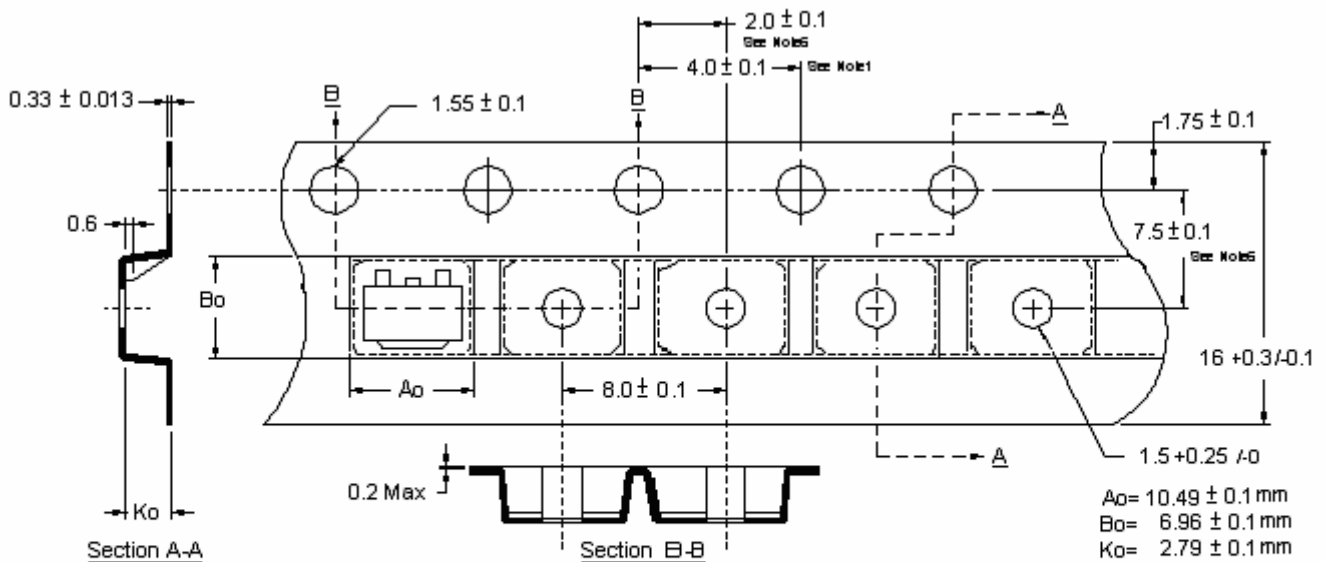


Reel Dimension



Unit: millimeter

Carrier Tape Dimension

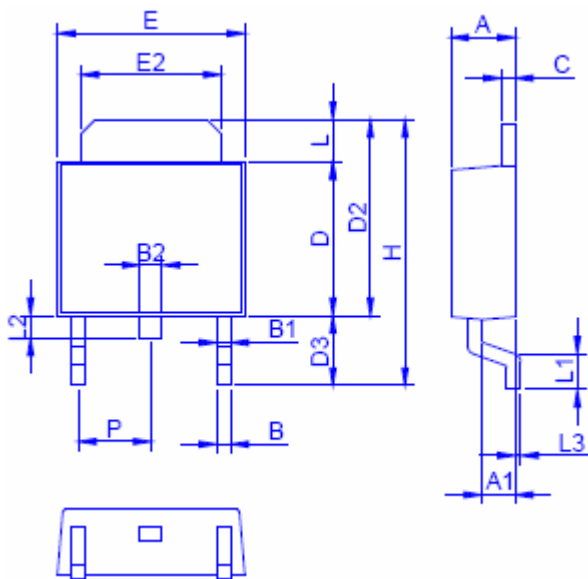


Notes:

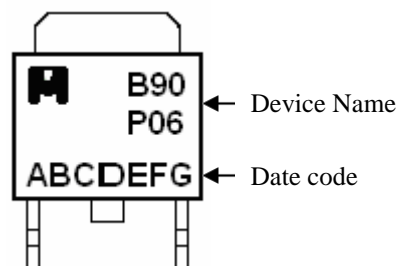
1. 10 sprocket hole pitch cumulative tolerance ± 0.2 .
2. Camber not to exceed 1mm in 100mm.
3. Material: Conductive Black Advantek Polystyrene.
4. A_0 & B_0 measured on a plane 0.3mm above the bottom of the pocket.
5. K_0 measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

Unit : millimeter

TO-252 Dimension



Marking:



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

3-Lead TO-252 Plastic Surface Mount Package

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0827	0.0984	2.10	2.50	E	0.2520	0.2638	6.40	6.70
A1	0.0374	0.0512	0.95	1.30	E2	0.1890	0.2146	4.80	5.45
B	0.0118	0.0335	0.30	0.85	H	0.3622	0.3996	9.20	10.15
B1	0.0157	0.0370	0.40	0.94	L	0.0350	0.0669	0.89	1.70
B2	0.0236	0.0394	0.60	1.00	L1	0.0354	0.0650	0.90	1.65
C	0.0157	0.0236	0.40	0.60	L2	0.0197	0.0433	0.50	1.10
D	0.2087	0.2441	5.30	6.20	L3	0.0000	0.0118	0.00	0.30
D2	0.2638	0.2874	6.70	7.30	P	0.0827	0.0984	2.10	2.50
D3	0.0866	0.1181	2.20	3.00					