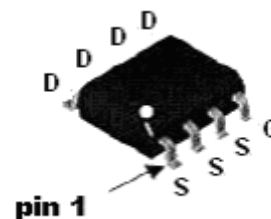


P-Channel Enhancement Mode Power MOSFET

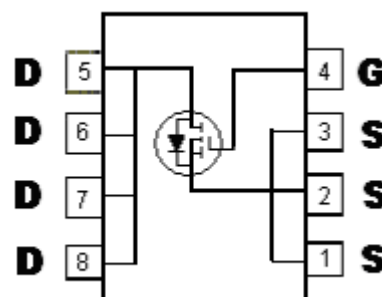
Features:

- Simple drive requirement
- Low on-resistance
- Fast switching speed
- Pb-free lead plating package



SOP-8

BV_{DSS}	-60V
$I_D @ V_{GS} = -10V, T_A = 25^\circ C$	-4A
$R_{DS(on)} @ V_{GS} = -10V, I_D = -4A$	80.3m Ω (typ.)
$R_{DS(on)} @ V_{GS} = -4.5V, I_D = -3A$	108m Ω (typ.)



G : Gate
S : Source
D : Drain

Ordering Information

Device	Package	Shipping
KSCB080P06	SOP-8 (Pb-free lead plating & halogen-free package)	2500 pcs / Tape & Reel

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V _{DS}	-60	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current @ T _A =25°C, V _{GS} =-10V	I _D	-4	A
Continuous Drain Current @ T _A =70°C, V _{GS} =-10V		-3.2	
Pulsed Drain Current	I _{DM}	-18 *1	
Avalanche Current	I _{AS}	-4	
Avalanche Energy @ L=6mH, I _D =-4A, V _{DD} =-15V	E _{AS}	48	mJ
Repetitive Avalanche Energy @ L=0.05mH	E _{AR}	2.5 *2	
Total Power Dissipation	P _D	T _A =25°C 3.1 *3	W
		T _A =70°C 2 *3	
Operating Junction and Storage Temperature Range	T _j , T _{stg}	-55~+150	°C

Thermal Data

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-case, max	R _{θJC}	25	°C/W
Thermal Resistance, Junction-to-ambient, max	R _{θJA}	40 *3	

Note : 1. Pulse width limited by maximum junction temperature
2. Duty cycle ≤ 1%
3. Surface mounted on 1 in² copper pad of FR-4 board, t ≤ 10s ; 125°C/W when mounted on minimum copper pad.

Electrical Characteristics (T_j=25°C, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV _{DSS}	-60	-	-	V	V _{GS} =0V, I _D =-250μA
V _{GS(th)}	-1.0	-	-2.5		V _{DS} =V _{GS} , I _D =-250μA
I _{GSS}	-	-	±100	nA	V _{GS} =±20V, V _{DS} =0V
I _{DSS}	-	-	-1	μA	V _{DS} =-60V, V _{GS} =0V
	-	-	-10		V _{DS} =-48V, V _{GS} =0V, T _j =85°C
R _{DS(ON)} *1	-	80.3	105	mΩ	V _{GS} =-10V, I _D =-4A
	-	108	145		V _{GS} =-4.5V, I _D =-3A
G _{FS} *1	-	10	-	S	V _{DS} =-10V, I _D =-10A
Dynamic					
C _{iss}	-	503	-	pF	V _{DS} =-25V, V _{GS} =0V, f=1MHz
C _{oss}	-	54	-		
Cr _{ss}	-	37	-		

Electrical Characteristics(Cont.) (Tj=25°C, unless otherwise specified)

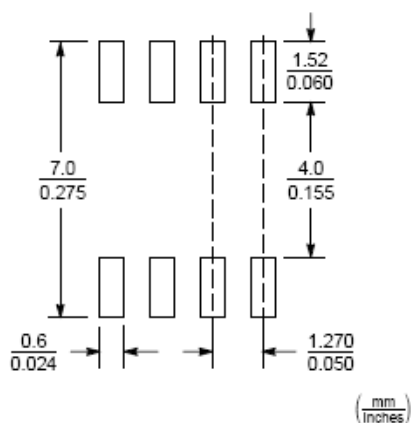
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
t _{d(ON)} *1, 2	-	6.4	-	ns	V _{DD} =-30V, I _D =-4A, V _{GS} =-10V, R _G =3Ω
t _r *1, 2	-	17	-		
t _{d(OFF)} *1, 2	-	25.2	-		
t _f *1, 2	-	7.2	-		
Q _g (V _{GS} =10V) *1, 2	-	11.4	-	nC	V _{DS} =-48V, I _D =-4A, V _{GS} =-10V
Q _g (V _{GS} =4.5V) *1, 2	-	6.3	-		
Q _{gs} *1, 2	-	2.1	-		
Q _{gd} *1, 2	-	3.2	-		
R _g	-	6.6	-	⌒	f=1MHz
Source-Drain Diode					
I _S *1	-	-	-4	A	
I _{SM} *3	-	-	-16		
V _{SD} *1	-	-0.84	-1.2	V	I _S =-4A, V _{GS} =0V
t _{rr}	-	12.6	-	ns	I _F =-4A, dI _F /dt=100A/μs
Q _{rr}	-	8	-	nC	

Note : *1.Pulse Test : Pulse Width ≤300μs, Duty Cycle≤2%

*2.Independent of operating temperature

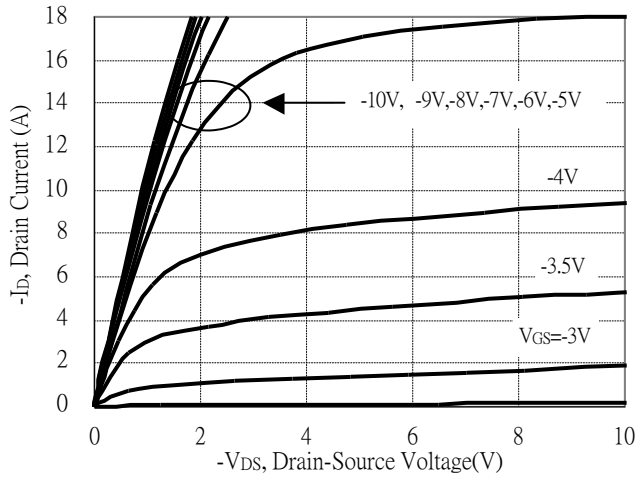
*3.Pulse width limited by maximum junction temperature.

Recommended Soldering Footprint

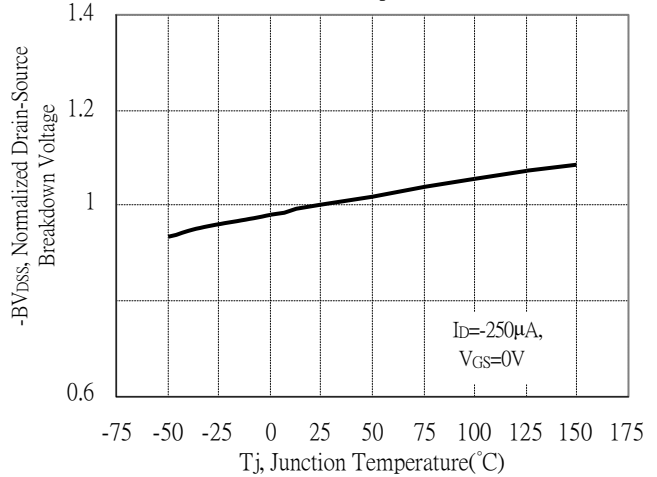


Typical Characteristics

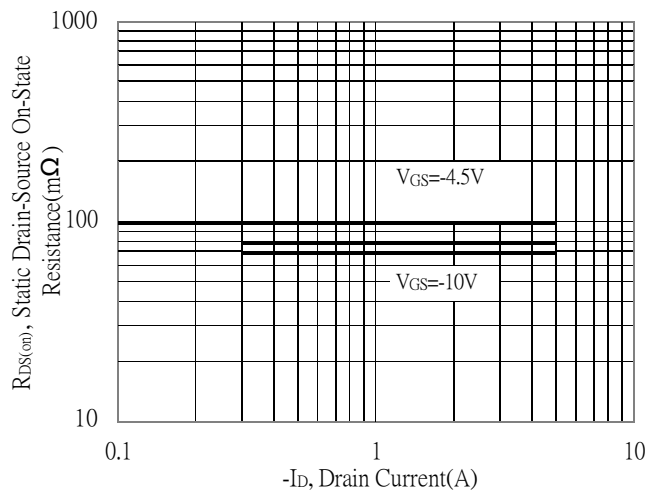
Typical Output Characteristics



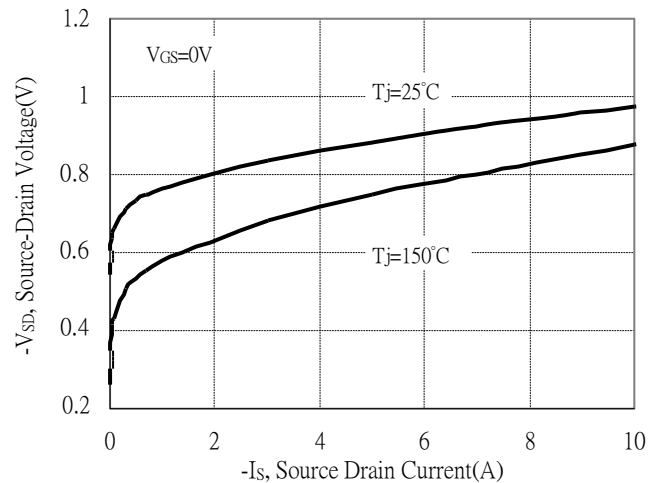
Normalized Breakdown Voltage vs Ambient Temperature



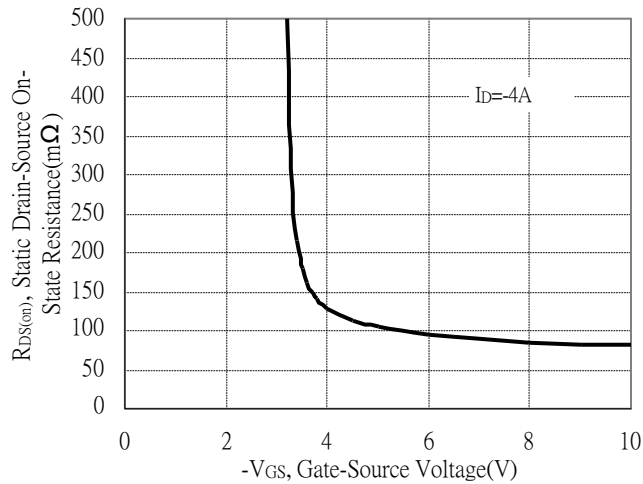
Static Drain-Source On-State resistance vs Drain Current



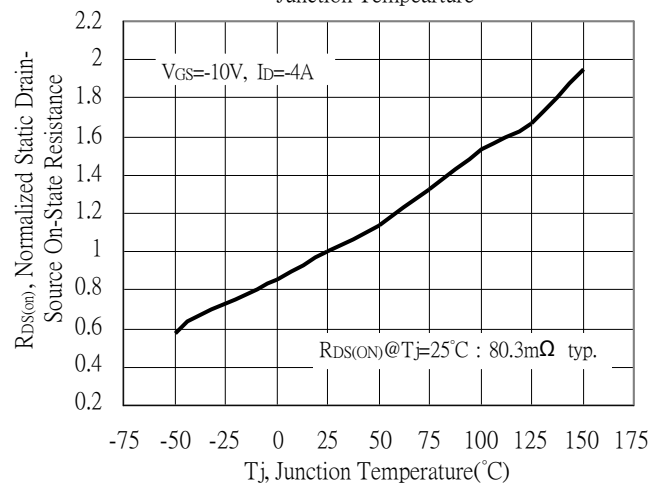
Source Drain Current vs Source-Drain Voltage



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

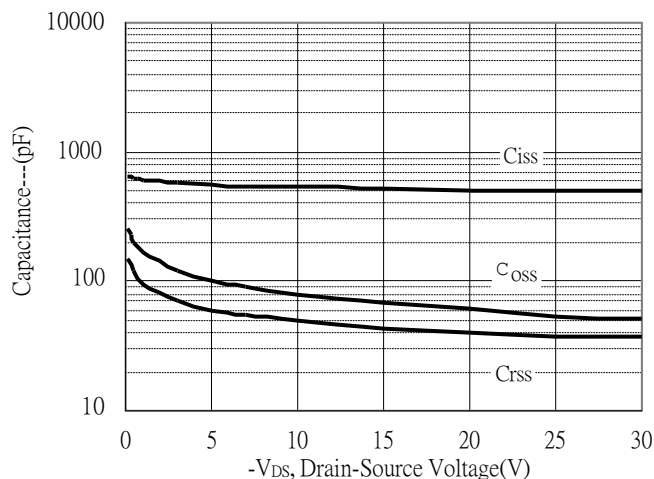


Normalized Drain-Source On-State Resistance vs Junction Temperature

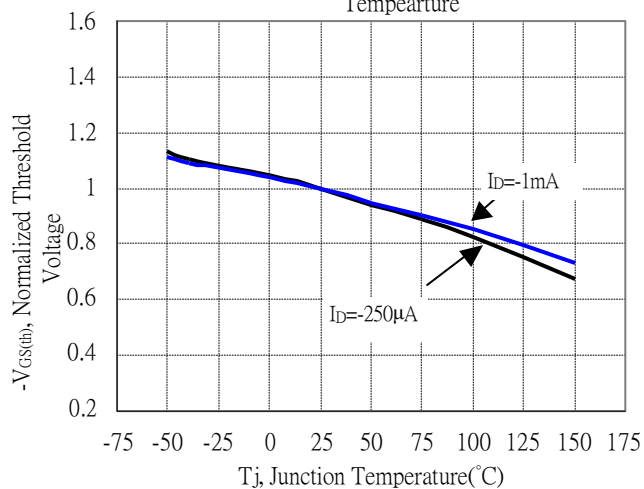


Typical Characteristics(Cont.)

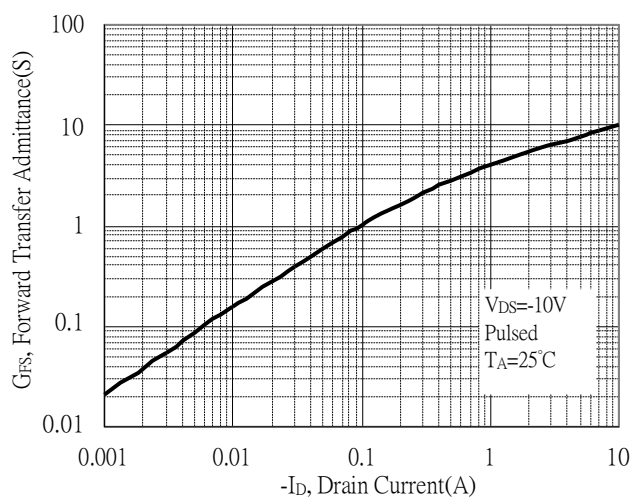
Capacitance vs Drain-to-Source Voltage



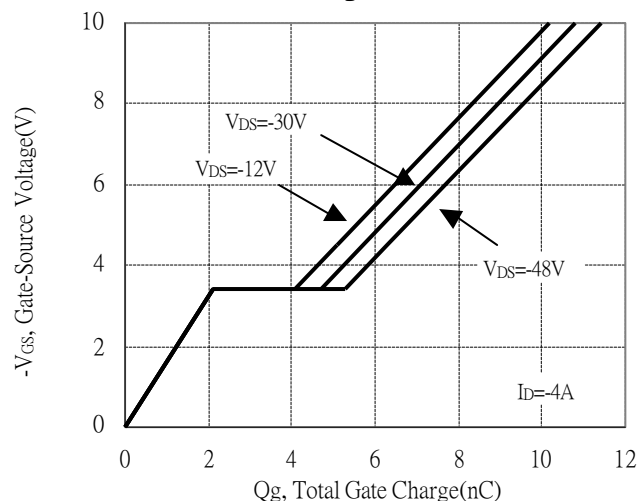
Normalized Threshold Voltage vs Junction Temperature



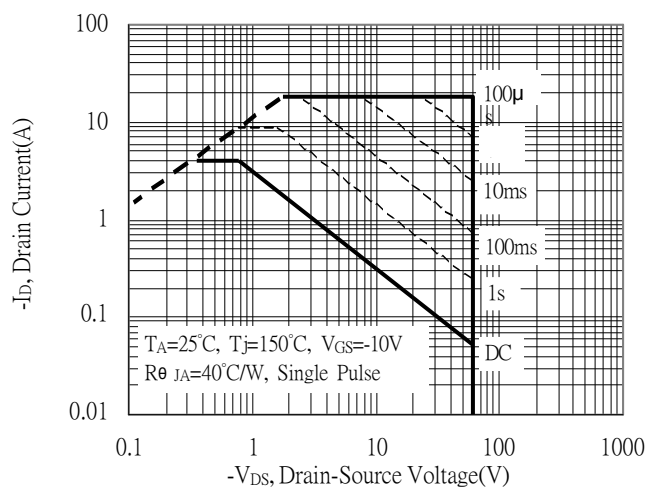
Forward Transfer Admittance vs Drain Current



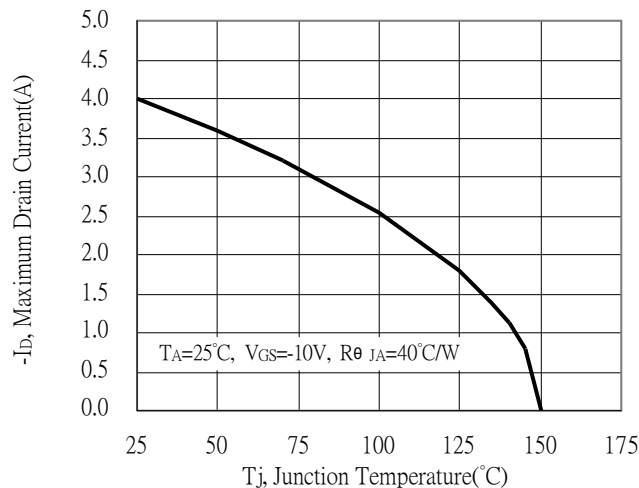
Gate Charge Characteristics



Maximum Safe Operating Area

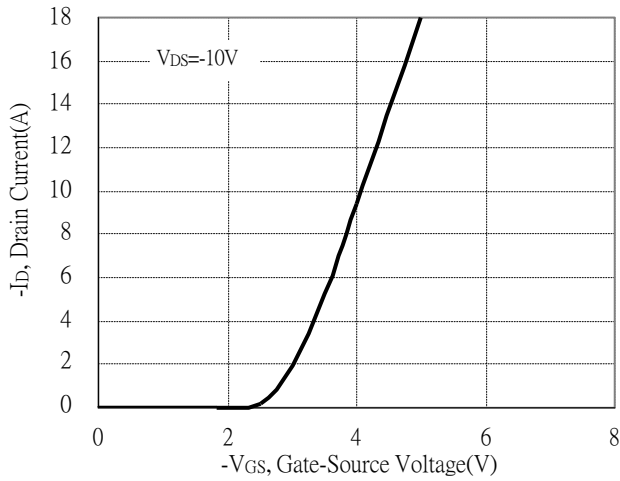


Maximum Drain Current vs Junction Temperature

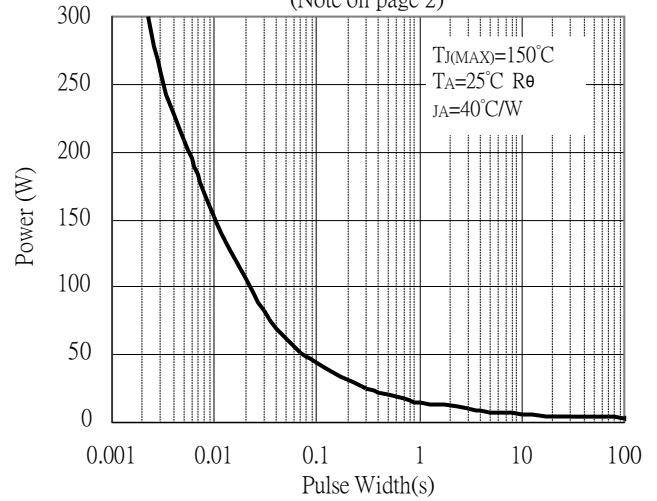


Typical Characteristics(Cont.)

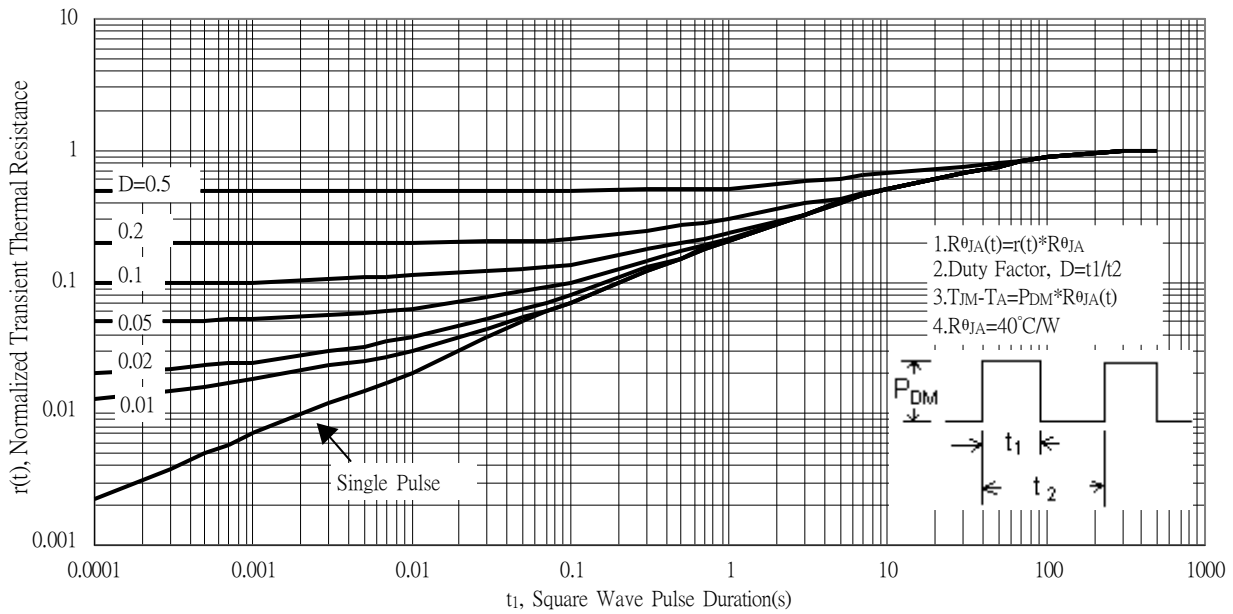
Typical Transfer Characteristics



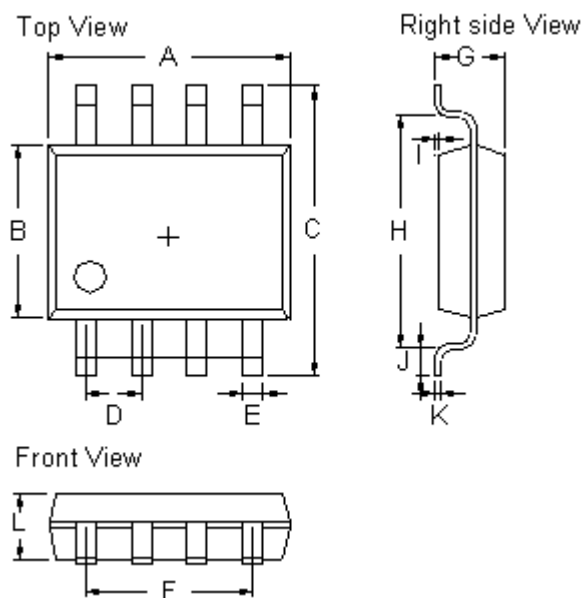
Single Pulse Power Rating, Junction to Ambient
 (Note on page 2)



Transient Thermal Response Curves



SOP-8 Dimension

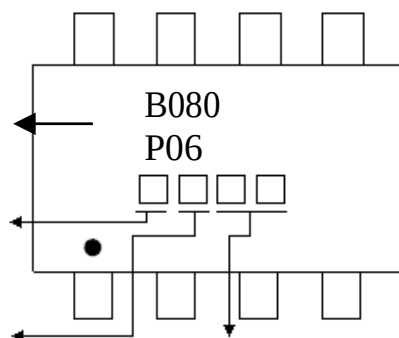


Marking:

Device Name

Year Code : Last digit of Christian year

Month Code : A, B, C, D, E, F, G, H, J, K, L, and M represent Jan thru Dec



Production Lot Serial number:
Rolling from 01 each month

8-Lead SOP-8 Plastic Package
Code: Q8

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1850	0.2007	4.70	5.10	G	0.0531	0.0689	1.35	1.75
B	0.1496	0.1575	3.80	4.00	H	0.1889	0.2007	4.80	5.10
C	0.2283	0.2441	5.80	6.20	I	0.0019	0.0098	0.05	0.25
D	0.0500*		1.27 *		J	0.0157	0.0500	0.40	1.27
E	0.0130	0.0201	0.33	0.51	K	0.0067	0.0098	0.17	0.25
F	0.1472	0.1527	3.74	3.88	L	0.0531	0.0610	1.35	1.55