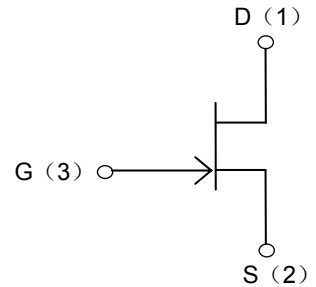


Description

- Especially suited for use in Electret Condenser Microphone
- Ultra-small package permitting PD045G applied sets to be made smaller and slimmer
- Excellent voltage characteristics
- Excellent transient characteristics


Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness : ≤3mil

Absolute maximum rating@25°C

Parameter	Symbol	Ratings	Units
Gate to Drain Voltage	V_{GDO}	-20	V
Gate Current	I_G	10	mA
Drain Current	I_D	1	mA
Allowable Power Dissipation	P_D	100	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to 150	°C

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G = -100\mu A$	-20		-	V
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 3V, I_D = 1\mu A$	-0.2	-0.6	-1.2	V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 3V, V_{GS} = 0$	40	-	500	uA
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 3V, V_{GS} = 0, f = 1KHz$	0.4	1.2		ms
Input Capacitance	C_{ISS}	$V_{DS} = 3V, V_{GS} = 0, f = 1KHz$	-	3.5		pF
Reverse Transfer Capacitance	C_{RSS}	$V_{DS} = 3V, V_{GS} = 0, f = 1KHz$	-	0.65		pF

The PD045G is classified by IDSS as follows : (Units:uA)

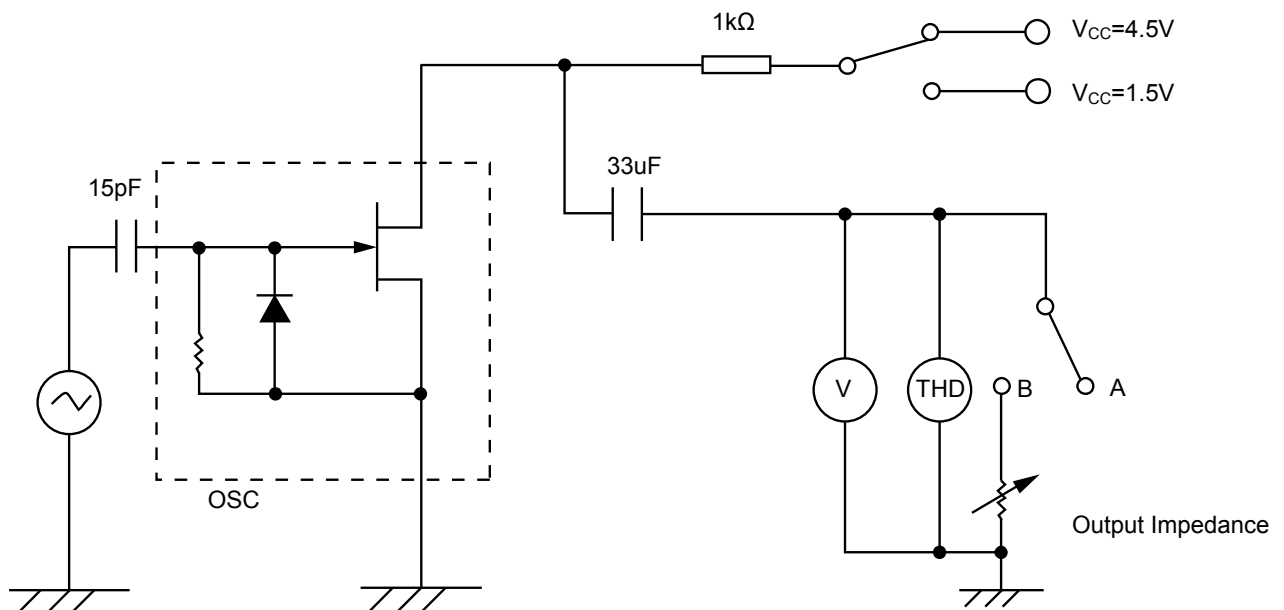
Rank	E31	E32	E4	E51	E53	E6
I _{DSS}	70~100	100~150	150~200	200~300	300~360	360~480

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
$T_A=25^{\circ}\text{C}, V_{CC}=4.5\text{V}, R_L=1\text{k}\Omega, C_{in}=15\text{pF}.$						
Voltage Gain	G_V	$V_{IN}=10\text{mV}, f=1\text{KHz}$		-3.0	-	dB
Reduced Voltage Characteristics	ΔG_{VV}	$V_{IN}=10\text{mV}, f=1\text{KHz}, V_{CC}=4.5 \rightarrow 1.5\text{V}$		-1.2	-3.5	dB
Frequency Characteristics	ΔG_{Vf}	$f=1\text{KHz to } 110\text{Hz}$			-1.0	dB
Input Resistance	Z_{IN}	$f=1\text{KHz}$	25			MΩ
Output Resistance	Z_O	$f=1\text{KHz}$		1000		Ω
Total Harmonic Distortion	T_{HD}	$V_{IN}=30\text{mV}, f=1\text{KHz}$		1.0		%
Output Noise Voltage	V_{NO}				-110	dB

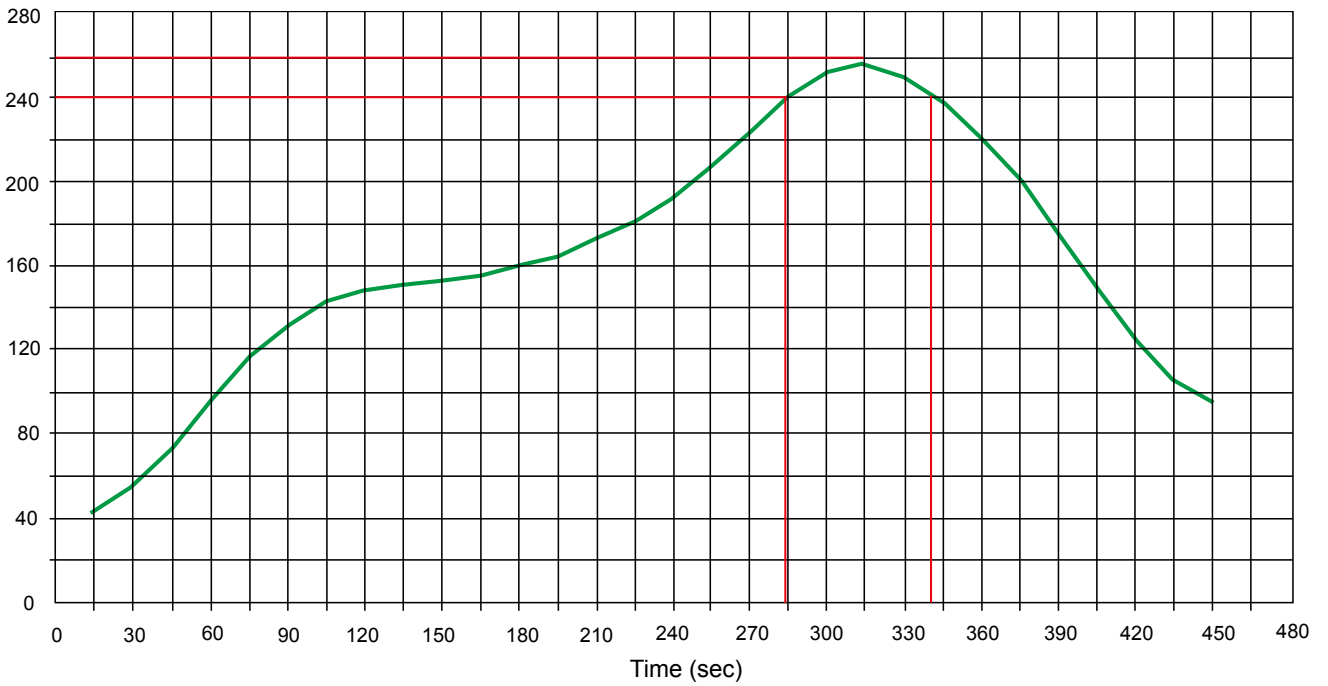
Test Circuit

- Voltage gain
- Frequency Characteristics
- Distortion
- Reduced Voltage Characteristics

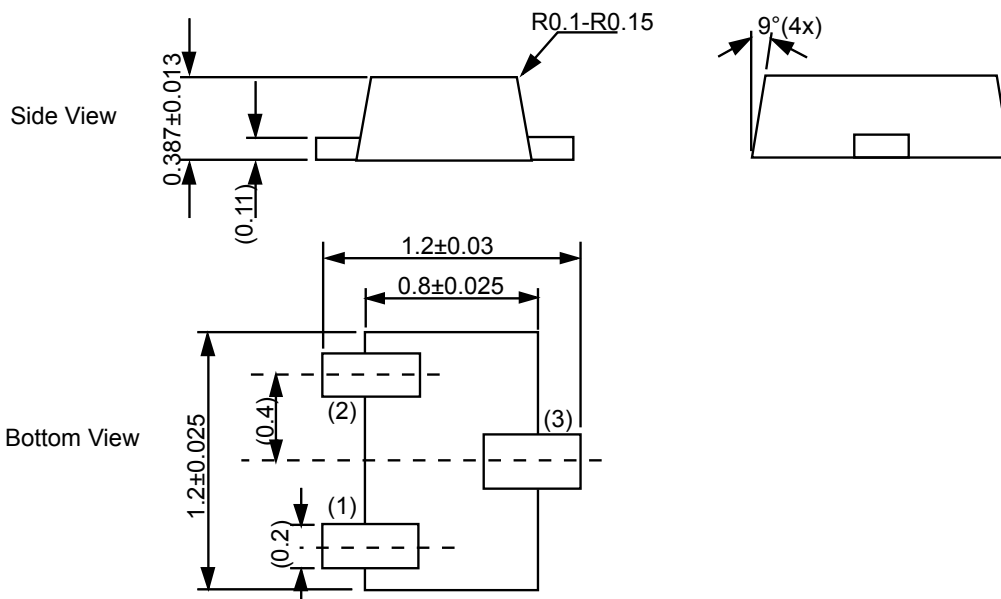


Solder Reflow Recommendation

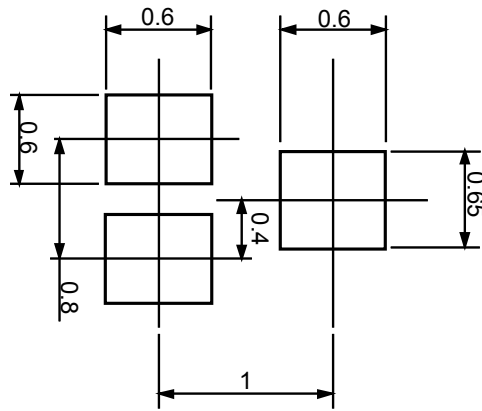
Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



Product dimension (SOT-723)



Unit: mm




Unit: mm

Ordering information

Device	Package	Shipping
PD045G	SOT-723 (Pb-Free)	10000 / Tape & Reel


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