

MFE823



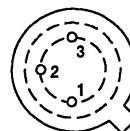
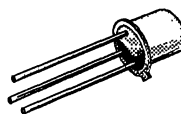
P-Channel Enhancement-Mode MOS Transistor

PRODUCT SUMMARY

PART NUMBER	$V_{(BR)DSS}$ (V)	g_{fs} (mS)	I_D (mA)	PACKAGE
MFE823	-25	1	-30	TO-18

TO-18

BOTTOM VIEW



1 DRAIN
2 GATE
3 SOURCE, SUBSTRATE CASE

Performance Curves: MRA (See Section 7)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	MFE823	UNITS
Drain-Source Voltage		V_{DS}	-25	V
Gate-Source Voltage		V_{GS}	± 10	
Continuous Drain Current	$T_A = 25^\circ\text{C}$	I_D	-30	mA
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	375	mW
Power Derating			3	mW/°C
Operating Junction		T_J	-55 to 150	°C
Storage Temperature		T_{stg}	-65 to 200	
Lead Temperature (1/16" from case for 10 seconds)		T_L	300	

ELECTRICAL CHARACTERISTICS ¹				LIMITS		
PARAMETER	SYMBOL	TEST CONDITIONS	TYP ²	MFE823		UNIT
				MIN	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = -10 μA	-70	-25		V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = -10 V, I _D = -10 μA	-2.5	-2	-6	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V V _{GS} = -10 V T _A = 125°C	<-1 -1		-1	pA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -10 V V _{GS} = 0 V T _A = 125°C	-0.01 -20		-20	nA
On-State Drain Current ³	I _{D(ON)}	V _{DS} = -10 V, V _{GS} = -10 V	-10	-3		mA
Drain-Source On-Resistance ³	r _{DS(ON)}	V _{GS} = -20 V, I _D = -100 μA	180			Ω
DYNAMIC						
Forward Transconductance ³	g _{fs}	V _{DS} = -10 V, I _D = -2 mA f = 1 kHz	1.5	1		mS
Common Source Output Conductance ³	g _{os}		35			μS
Input Capacitance	C _{iss}	V _{DS} = -10 V, V _{GS} = -10 V f = 1 MHz	2.4		6	pF
Reverse Transfer Capacitance	C _{rss}		0.5		1.5	

NOTES: 1. $T_A = 25^\circ\text{C}$ unless otherwise noted.
2. For design aid only, not subject to production testing.
3. Pulse test; $PW = 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.