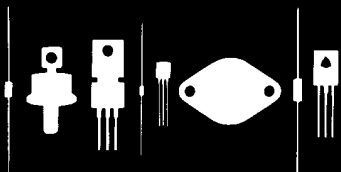


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145 Adams Avenue
Hauppauge, New York 11788



2N5638
2N5639
2N5640

N CHANNEL SILICON
FIELD EFFECT TRANSISTOR

JEDEC TO-92 CASE (DSG)

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5638 series types are silicon N channel field effect transistors designed for switching applications.

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

	SYMBOL		UNIT
Drain-Gate Voltage	V _{GD}	30	V
Drain-Source Voltage	V _{DS}	30	V
Reverse Gate-Source Voltage	V _{GSR}	30	V
Gate Current	I _G	10	mA
Power Dissipation	P _D	310	mW
Operating and Storage Junction Temperature	T _J , T _{STG}	-65 TO +150	°C

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N5638		2N5639		2N5640		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
I _{GSS}	V _{GS} =15V		1.0		1.0		1.0	nA
I _{GSS}	V _{GS} =15V, $T_A=100^{\circ}\text{C}$		1.0		1.0		1.0	μA
I _{DSS}	V _{DS} =20V	50		25		5.0		mA
I _D (OFF)	V _{DS} =15V, V _{GS} =12V		1.0		-		-	nA
I _D (OFF)	V _{DS} =15V, V _{GS} =8.0V		-		1.0		-	nA
I _D (OFF)	V _{DS} =15V, V _{GS} =6.0V		-		-		1.0	nA
I _D (OFF)	V _{DS} =15V, V _{GS} =12V, $T_A=100^{\circ}\text{C}$		1.0		-		-	μA
I _D (OFF)	V _{DS} =15V, V _{GS} =8.0V, $T_A=100^{\circ}\text{C}$		-		1.0		-	μA
I _D (OFF)	V _{DS} =15V, V _{GS} =6.0V, $T_A=100^{\circ}\text{C}$		-		-		1.0	μA
BV _{GSS}	I _G =10μA	30		30		30		V
V _{DS} (ON)	I _D =12mA		0.5		-		-	V
V _{DS} (ON)	I _D =6.0mA		-		0.5		-	V
V _{DS} (ON)	I _D =3.0mA		-		-		0.5	V
r _{DS} (ON)	I _D =1.0mA		30		60		100	Ω
r _{ds} (ON)	V _{GS} =0, I _D =0, f=1.0kHz		30		60		100	Ω
C _{iss}	V _{GS} =12V, V _{DS} =0, f=1.0MHz		10		10		10	pF
C _{rss}	V _{GS} =12V, V _{DS} =0, f=1.0MHz		4.0		4.0		4.0	pF
t _d (ON)	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=12mA, R _G =50Ω		4.0		-		-	ns
t _d (ON)	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=6.0mA, R _G =50Ω		-		6.0		-	ns
t _d (ON)	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=3.0mA, R _G =50Ω		-		-		8.0	ns
t _r	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=12mA, R _G =50Ω		5.0		-		-	ns
t _r	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=6.0mA, R _G =50Ω		-		8.0		-	ns
t _r	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=3.0mA, R _G =50Ω		-		-		10	ns
t _d (OFF)	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=12mA, R _G =50Ω		5.0		-		-	ns
t _d (OFF)	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=6.0mA, R _G =50Ω		-		10		-	ns
t _d (OFF)	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=3.0mA, R _G =50Ω		-		-		15	ns
t _f	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=12mA, R _G =50Ω		10		-		-	ns
t _f	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=6.0mA, R _G =50Ω		-		20		-	ns
t _f	V _{DD} =10V, V _{GS} (OFF)=10V, I _D (ON)=3.0mA, R _G =50Ω		-		-		30	ns

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