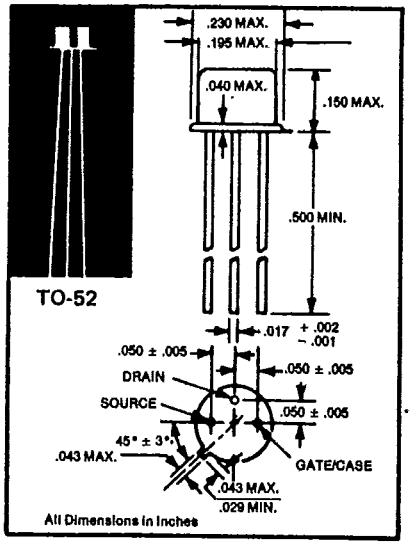
ULTRA LOW R_{ON} SWITCHING
SILICON EPITAXIAL JUNCTION N-CHANNEL FIELD EFFECT TRANSISTORS

2N5432
2N5433
2N5434

GEOMETRY 501

- LOW R_{DS} – 5 Ohms
- LOW C_{GD} – 15 pfd



ELECTRICAL DATA ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL		UNITS
Drain to Gate Voltage	BV_{DGO}	25	Volts
Gate to Source Voltage	BV_{GSO}	-25	Volts
Peak Forward Gate Current	I_{GF}	100	mA
Peak Drain Current	I_D	400	mA
Power Dissipation (free air)	P_D	400	mW
Derating Factor (free air)	D_F	2.3	mW/°C
Junction Temp. (Oper. & Store)	T_J	-65°C to +200°C	
Lead Temp. (@ 1/16" ± 1/32" from case)	T_L	300°C for 10 sec.	

ELECTRICAL CHARACTERISTICS: T_A = 25°C (UNLESS OTHERWISE STATED)

PARAMETERS AND CONDITIONS	SYMBOL	2N5432			2N5433			2N5434			UNITS
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Gate Leakage Current V_{GS}=-15V V_{DS}=0	I_{GSS}	–	–	0.2	–	–	0.2	–	–	0.2	nA
Gate Leakage Current V_{GS}=-15V V_{DS}=0 T_A=150°C	I_{GSS}	–	–	0.2	–	–	0.2	–	–	0.2	μA
Drain Cutoff Current V_{GS}=-10V V_{DS}=5V	I_{DOFF}	–	–	0.2	–	–	0.2	–	–	0.2	nA
Drain Cutoff Current V_{GS}=-10V V_{DS}=5V T_A=100°C	I_{DOFF}	–	–	0.2	–	–	0.2	–	–	0.2	μA
Pinch Off Voltage V_{DS}=5V I_{DS}=3nA	V_{PO}	4.0	7.0	10	3.0	5.0	9.0	1.0	2.5	4.0	Volts
On Resistance V_{GS}=0 I_D=10mA	R_{DS}	2.0	4.0	5.0	–	–	7.0	–	–	10	Ohms
Drain-Source "On" Voltage I_D=10mA V_{GS}=0	V_{DS}(On)	–	–	50	–	–	70	–	–	100	mV
Drain Current* V_{DS}=15V V_{GS}=0	I_{DSS}	150	–	–	100	–	–	30	–	–	mA
Input Capacitance V_{GS}=-10V V_{DS}=0	C_{iss}	–	–	30	–	–	30	–	–	30	pfd
Reverse Transfer Capacitance V_{GD}=-10V	C_{rss}	–	–	15	–	–	15	–	–	15	pfd
Turn On Time[1]	Td+Tr	–	–	5	–	–	5	–	–	5	nS
Turn Off Time[1]	Ts+Tf	–	–	36	–	–	36	–	–	36	nS

* Pulse Measurement. Pulsewidth 300μs Duty Cycle ≤ 3%.
[1] R_G = 50 Ω, V_{DD} = 1.5V, V pulse = -12V, $I_{D(ON)}$ = 10 mA

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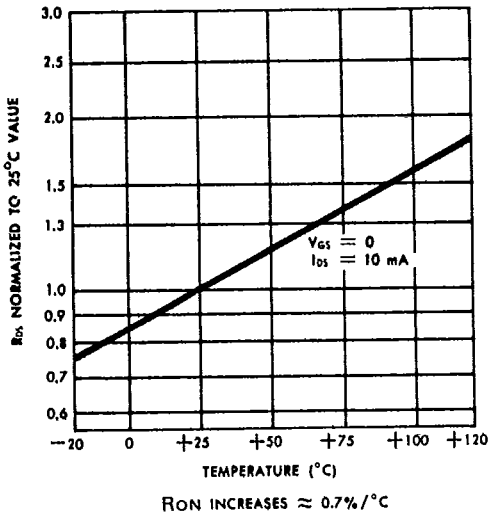
2N5432 Thru 2N5434
CM800

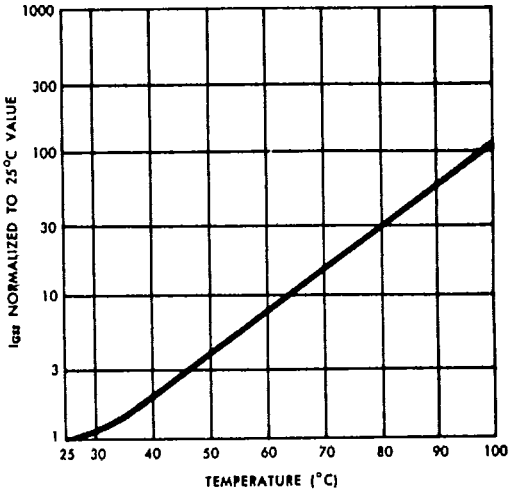
TYPICAL CHARACTERISTICS

ON RESISTANCE VS. TEMPERATURE



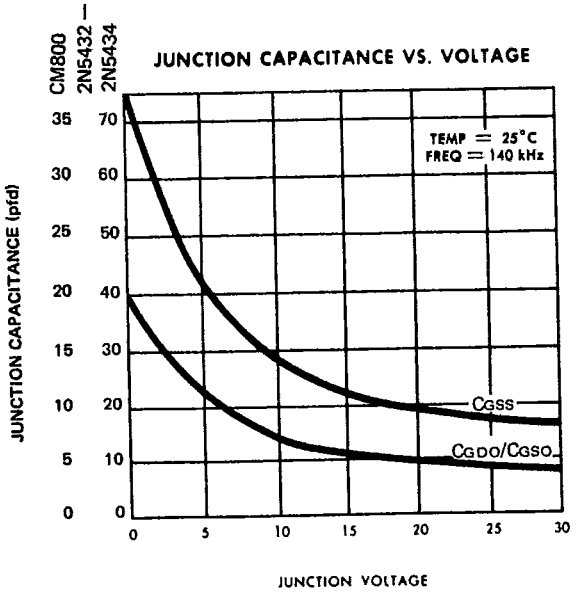
RON INCREASES ≈ 0.7%/°C

GATE LEAKAGE CURRENT VS. TEMPERATURE

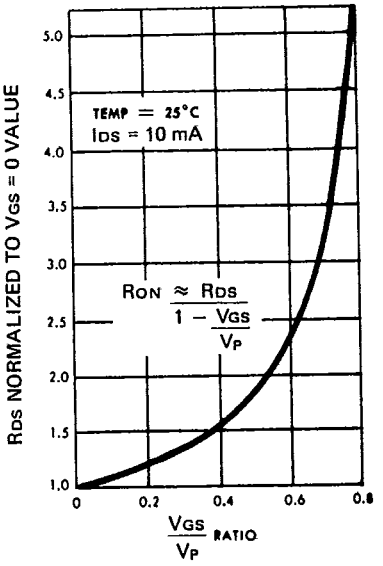


IGSS DOUBLES EACH 10°C

JUNCTION CAPACITANCE VS. VOLTAGE



ON RESISTANCE VS. GATE VOLTAGE



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