

isc N-Channel MOSFET Transistor

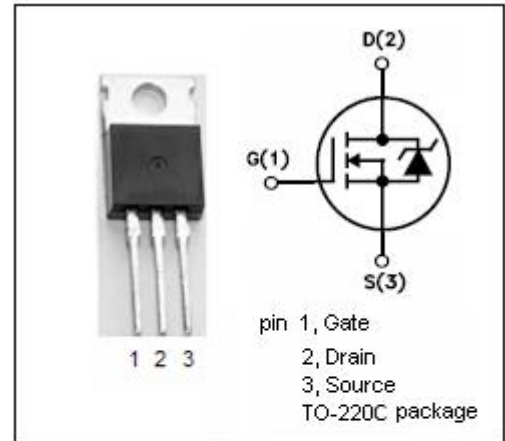
60N05

DESCRIPTION

- Drain Current $I_D = 60A @ T_C = 25^\circ C$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 18m\Omega$ (Max)
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- General purpose power amplifier
High current, high speed switching
Solenoid and relay drivers

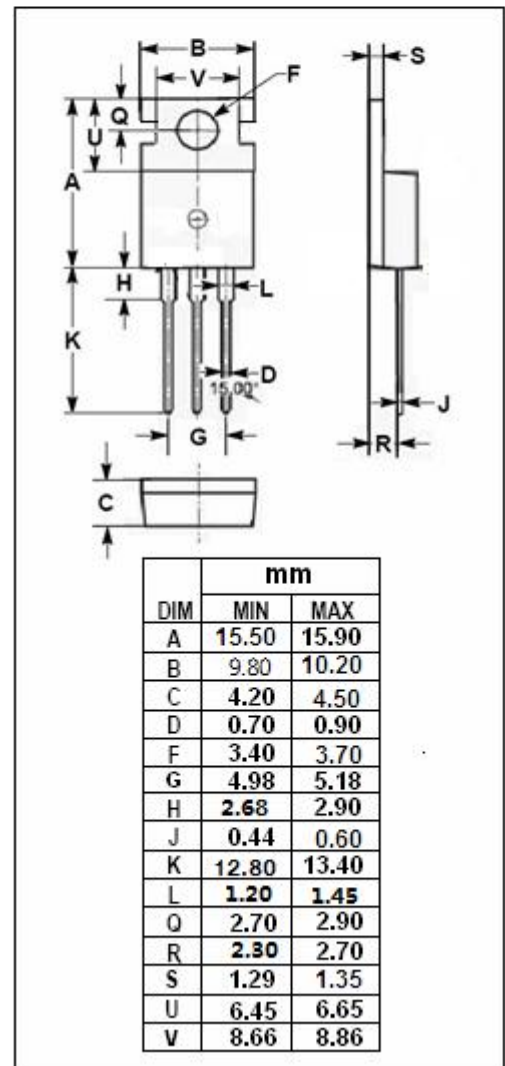


ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	50	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-continuous@ $T_C = 25^\circ C$	60	A
	Drain Current-continuous@ $T_C = 100^\circ C$	38.9	
$I_{D(puls)}$	Pulse Drain Current	200	A
P_{tot}	Total Dissipation@ $T_C = 25^\circ C$	150	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ C/W$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



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• ELECTRICAL CHARACTERISTICS (T_c=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V _{DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D = 250μA	50			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =250μA	2.0		4.0	V
V _{SD}	Diode Forward On-Voltage	I _S =60A; V _{GS} = 0			1.6	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D =20A			14	mΩ
		V _{GS} = 4.5V; I _D =15A			18	
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 50V; V _{GS} = 0			250	μA

DYNAMIC PARAMETERS

C _{ISS}	Input Capacitance	V _{GS} =0V, V _{DS} =25V, f=1.0MHZ		1760		pF
C _{OSS}	Output Capacitance			169		pF
C _{RSS}	Reverse Transfer Capacitance			123		pF

SWITCHING PARAMETERS

Q _G	Total Gate Charge	V _{GS} =10V, V _{DS} =25V, I _D =20A		35.4		nC
Q _{GS}	Gate to Source Charge			4.3		nC
Q _{GD}	Gate to Drain Charge			10.5		nC
t _{D(ON)}	Turn-ON Delay Time	V _{DD} =25V, V _{GS} =10V, R _G =3Ω, R _L =1Ω		6.1		nS
t _R	Rise Time			17		nS
t _{D(OFF)}	Turn-OFF Delay Time			29		nS

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