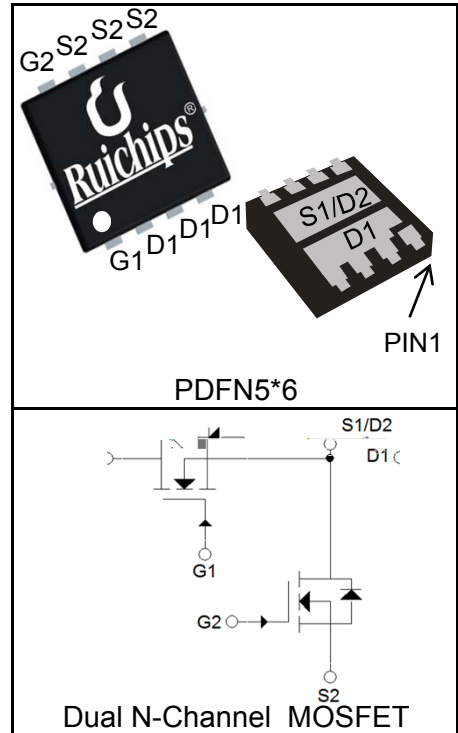


- 30V/30A,
 $R_{DS(ON)} = 6m$ (Typ.)@ $V_{GS}=10V$
 $R_{DS(ON)} = 9.5m$ (Typ.)@ $V_{GS}=4.5V$
- Ultra Low On-Resistance
- Fast Switching Speed
- 100% avalanche tested
- Lead Free and Green Devices Available (RoHS Compliant)



- DC/DC Converters
- On board power for server
- Synchronous rectification

(T _C =25°C Unless Otherwise Noted)				
V _{DSS}	Drain-Source Voltage		30	V
V _{GSS}	Gate-Source Voltage		±20	
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	°C
I _S	Diode Continuous Forward Current	T _C =25°C	20	A
I _{DP}	300µs Pulse Drain Current Tested	T _C =25°C	120	A
I _D	Continuous Drain Current@T _C (V _{GS} =10V)	T _C =25°C	30	A
		T _C =100°C	19	
	Continuous Drain Current@T _A (V _{GS} =10V)	T _A =25°C	11	
		T _A =70°C	9	
P _D	Maximum Power Dissipation@T _C	T _C =25°C	29	W
		T _C =100°C	12	
	Maximum Power Dissipation@T _A	T _A =25°C	3.5	
		T _A =70°C	2.3	

$R_{\theta JC}$	Thermal Resistance-Junction to Case	4.2	°C/W
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient	42	°C/W
E_{AS}	Avalanche Energy, Single Pulsed	49	mJ

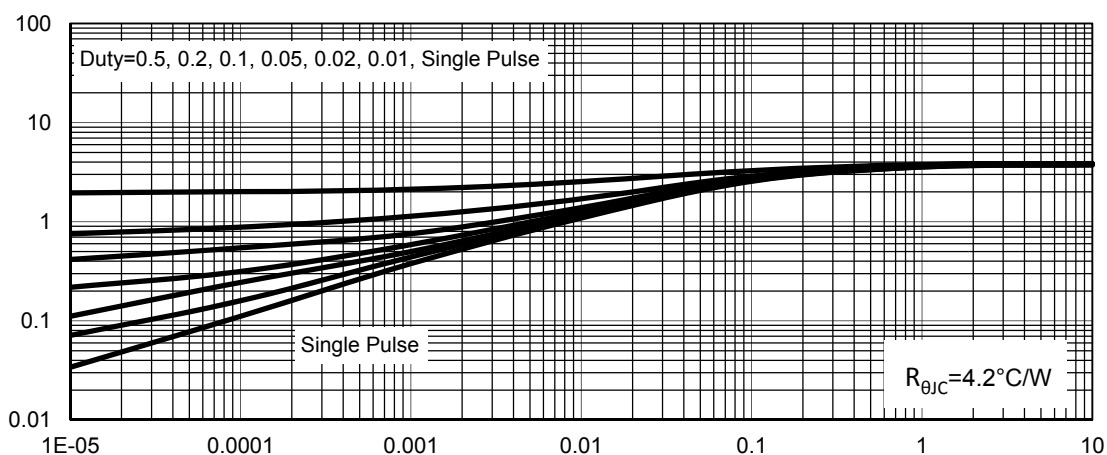
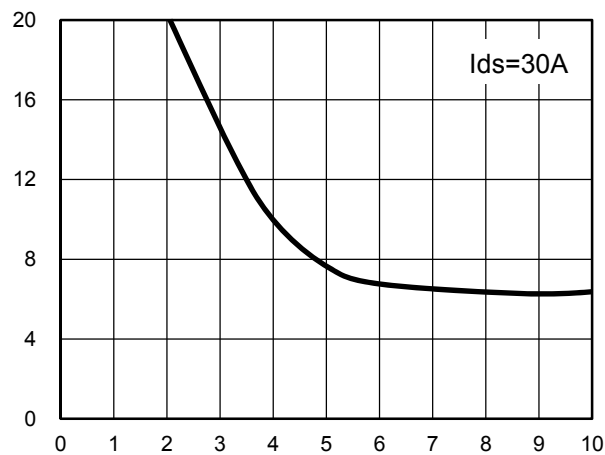
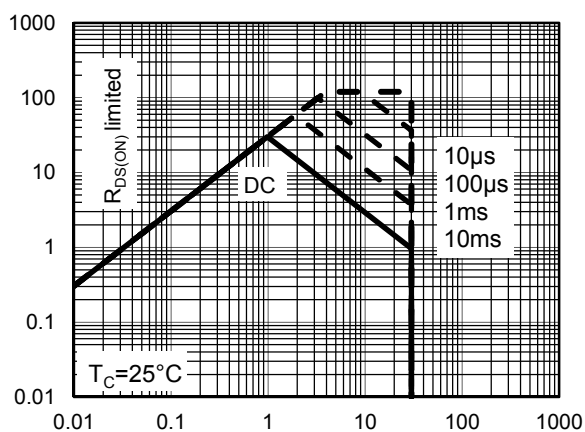
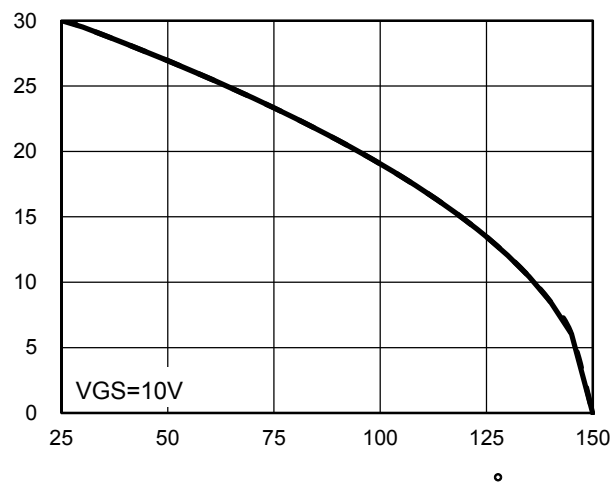
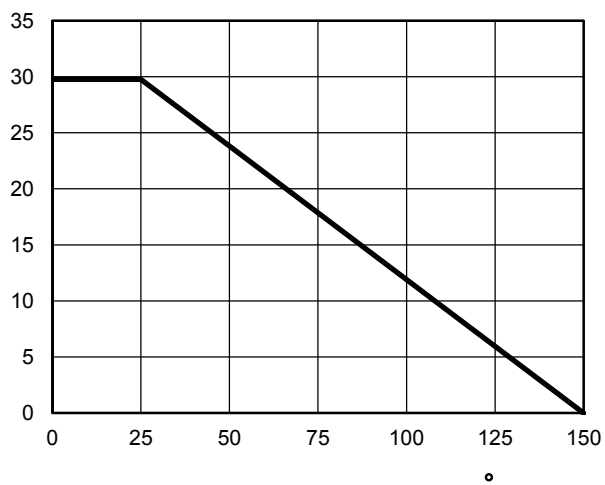
($T_C=25^\circ\text{C}$ Unless Otherwise Noted)

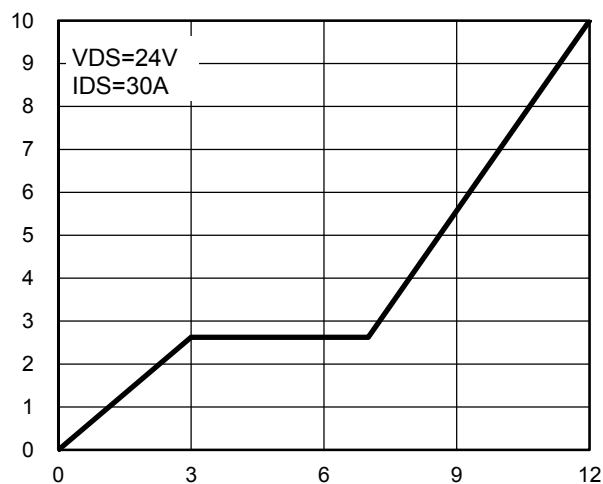
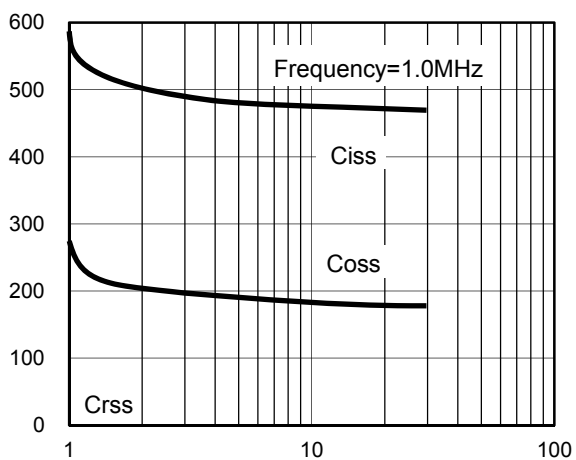
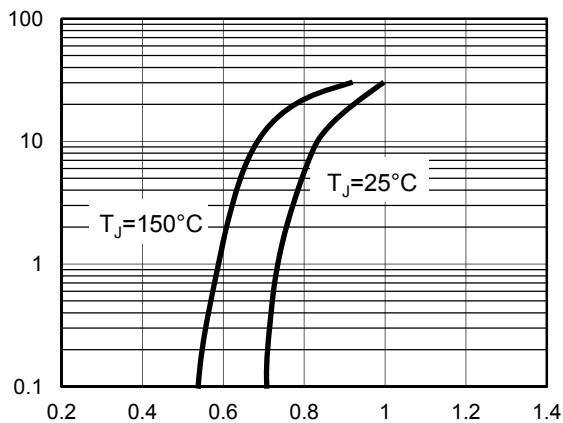
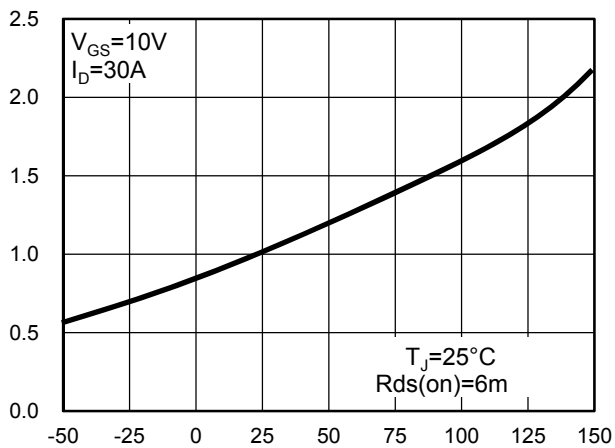
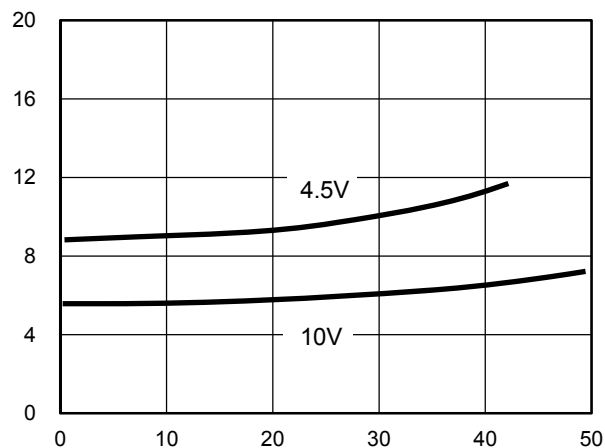
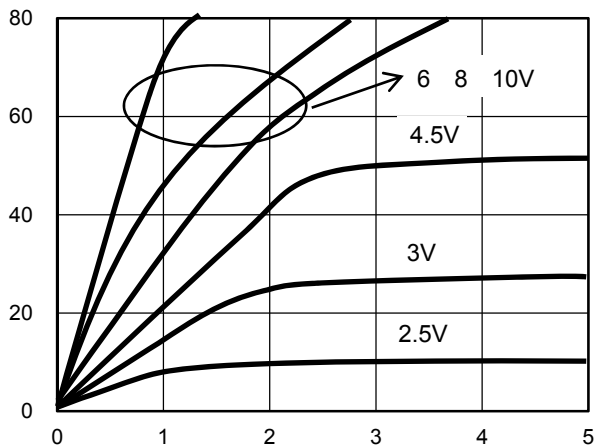
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_{DS}=250\mu A$	30			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=30V, V_{GS}=0V$			1	μA
		$T_J=125^\circ\text{C}$			30	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_{DS}=250\mu A$	1		2.5	V
I_{GSS}	Gate Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
$R_{DS(ON)}$	Drain-Source On-state Resistance	$V_{GS}=10V, I_{DS}=30A$		6	8	m
		$V_{GS}=4.5V, I_{DS}=20A$		9.5	12	m
V_{SD}	Diode Forward Voltage	$I_{SD}=30A, V_{GS}=0V$			1.2	V
t_{rr}	Reverse Recovery Time	$I_{SD}=30A, dI_{SD}/dt=100A/\mu s$		15		ns
Q_{rr}	Reverse Recovery Charge			8		nC
R_G	Gate Resistance	$V_{GS}=0V, V_{DS}=0V, F=1\text{MHz}$		1.2		
C_{iss}	Input Capacitance	$V_{GS}=0V,$ $V_{DS}=15V,$ Frequency=1.0MHz		470		pF
C_{oss}	Output Capacitance			130		
C_{rss}	Reverse Transfer Capacitance			19		
$t_{d(ON)}$	Turn-on Delay Time	$V_{DD}=15V, R_L=0.47\Omega,$ $I_{DS}=30A, V_{GEN}=10V,$ $R_G=0.8$		4		ns
t_r	Turn-on Rise Time			10		
$t_{d(OFF)}$	Turn-off Delay Time			14		
t_f	Turn-off Fall Time			5		
Q_g	Total Gate Charge	$V_{DS}=24V, V_{GS}=10V,$ $I_{DS}=30A$		12		nC
Q_{gs}	Gate-Source Charge			3		
Q_{gd}	Gate-Drain Charge			4		

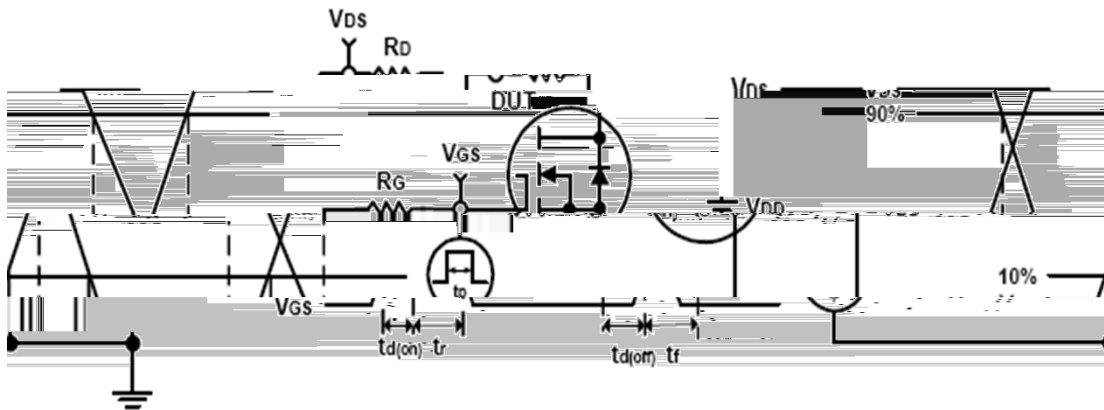
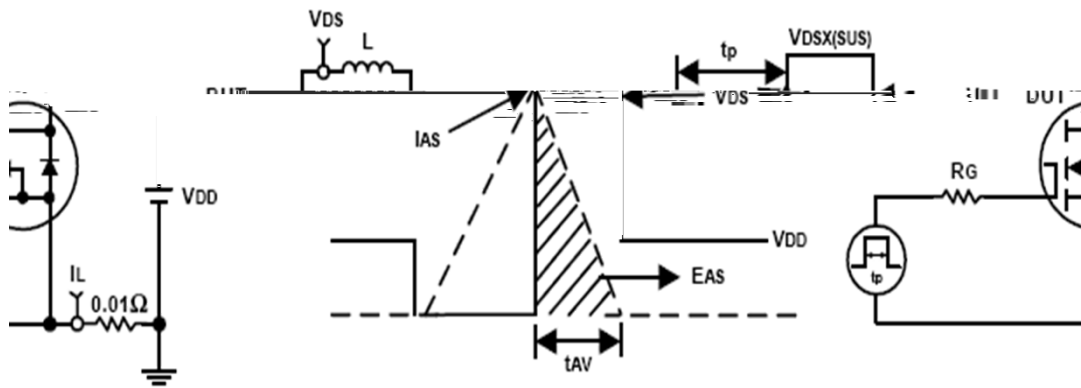
Notes:

Pulse width limited by safe operating area.
Calculated continuous current based on maximum allowable junction temperature.
When mounted on 1 inch square copper board, $t \leq 10\text{sec}$.
Limited by T_{Jmax} , $I_{AS} = 14\text{A}$, $V_{DD} = 24\text{V}$, $R_G = 50 \Omega$, Starting $T_J = 25^\circ\text{C}$.
Pulse test; Pulse width $300\mu\text{s}$, duty cycle 2% .
Guaranteed by design, not subject to production testing.

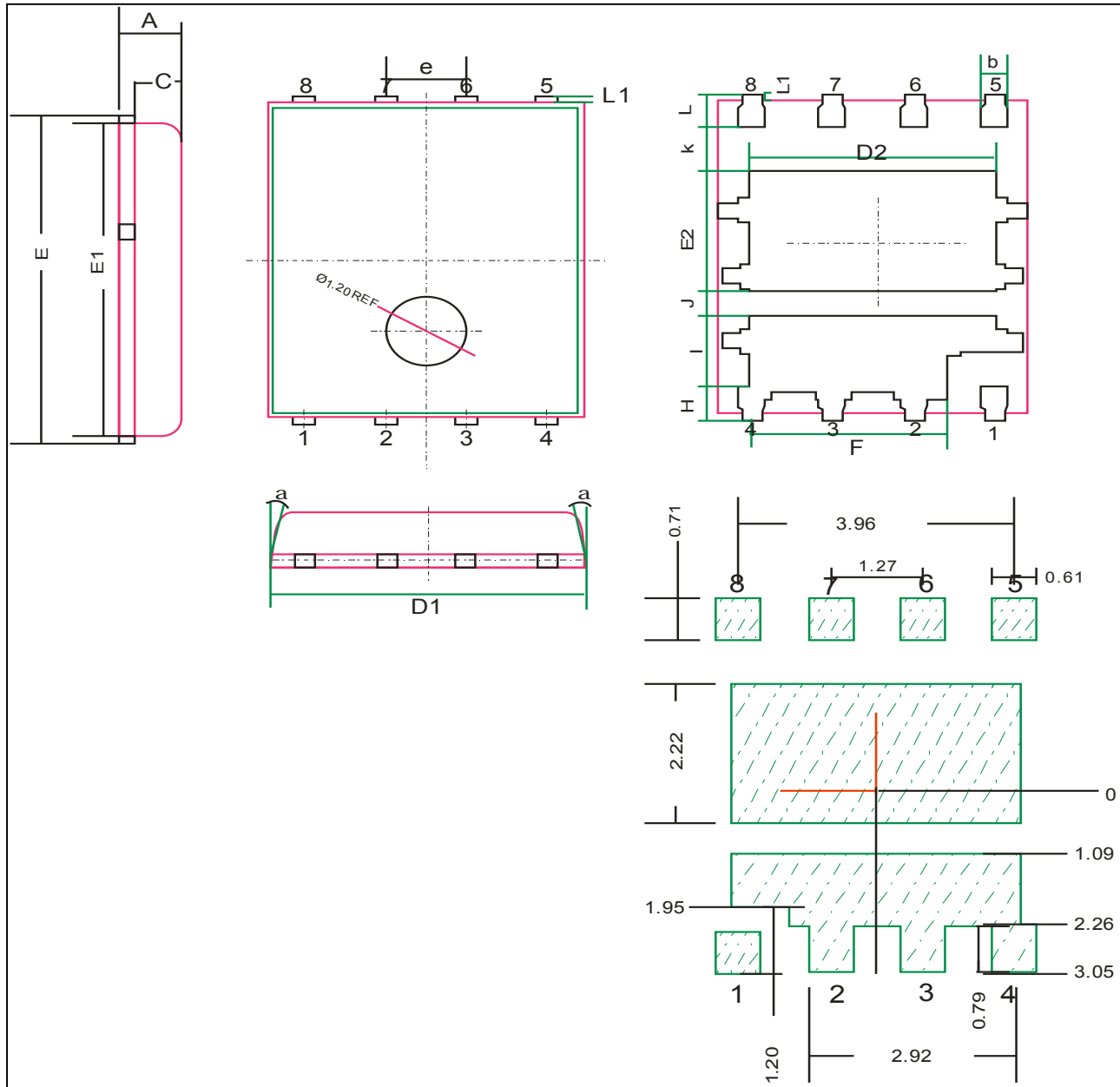
RUH30J30M	RUH30J30M	PDFN5060	Tape&Reel	3000	13"	12mm







PDFN5060



SYMBOL	MM			INCH			SYMBOL	MM			INCH		
	MIN	NOM	MAX	MIN	NOM	MAX		MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	1.00	1.10	0.035	0.039	0.043	E1	5.70	5.75	5.80	0.224	0.226	0.228
b	0.33	0.41	0.51	0.013	0.016	0.020	E2	2.02	2.17	2.32	0.079	0.085	0.091
c	0.20	0.25	0.30	0.008	0.010	0.012	e	1.27BSC			0.05BSC		
D1	4.80	4.90	5.00	0.189	0.193	0.197	H	0.48	0.58	0.68	0.018	0.022	0.026
D2	3.61	3.81	3.96	0.142	0.150	0.156	L	0.51	0.61	0.71	0.020	0.024	0.028
L1	0.06	0.13	0.20	0.002	0.005	0.008							
E	5.90	6.00	6.10	0.232	0.236	0.240	@	0°	*	12°	*	10°	12°
K	0.50	*	*	0.019	*	*	J	0.40	0.50	0.60	0.015	0.019	0.023
I	1.22	1.32	1.42	0.048	0.051	0.055	F	2.87	3.07	3.22	0.112	0.12	0.126

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