



# SPP6507

## Dual P-Channel Enhancement Mode MOSFET

### DESCRIPTION

The SPP6507 is the Dual P-Channel enhancement mode power field effect transistors are produced using high cell density , DMOS trench technology. This high density process is especially tailored to minimize on-state resistance and provide superior switching performance. These devices are particularly suited for low voltage applications such as notebook computer power management and other battery powered circuits where high-side switching , low in-line power loss, and resistance to transients are needed.

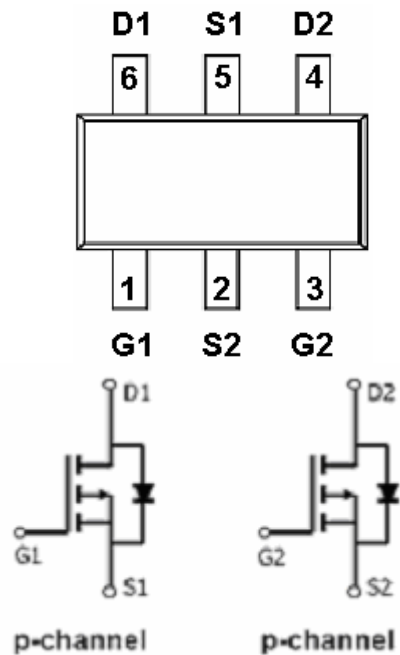
### FEATURES

- ◆ P-Channel
  - 30V/-2.8A,  $R_{DS(ON)}=105m\Omega@V_{GS}=-10V$
  - 30V/-2.5A,  $R_{DS(ON)}=115m\Omega@V_{GS}=-4.5V$
  - 30V/-1.5A,  $R_{DS(ON)}=150m\Omega@V_{GS}=-2.5V$
  - 30V/-1.0A,  $R_{DS(ON)}=215m\Omega@V_{GS}=-1.8V$
- ◆ Super high density cell design for extremely low RDS (ON)
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOT-23-6L package design

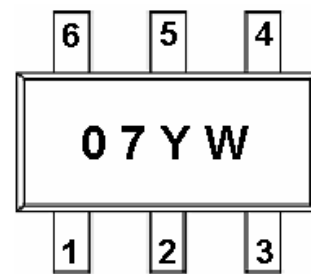
### APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

### PIN CONFIGURATION( SOT-23-6L )



### PART MARKING



Y : Year Code  
W : Week Code



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### PIN DESCRIPTION

Pin	Symbol	Description
1	G1	Gate 1
2	S2	Source 2
3	G2	Gate 2
4	D2	Drain 2
5	S1	Source 1
6	D1	Drain1

### ORDERING INFORMATION

Part Number	Package	Part Marking
SPP6507S26RG	SOT-23- 6L	07YW
SPP6507S26RGB	SOT-23- 6L	07YW

※ Week Code : A ~ Z ( 1 ~ 26 ) ; a ~ z ( 27 ~ 52 )

※ SPP6507S26RG : Tape Reel ; Pb – Free

※ SPP6507S26RGB : Tape Reel ; Pb – Free ; Halogen – Free

### ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Drain-Source Voltage	V <sub>DSS</sub>	-30	V
Gate –Source Voltage	V <sub>GSS</sub>	±12	V
Continuous Drain Current(T <sub>J</sub> =150°C)	I <sub>D</sub>	TA=25°C	-2.8
		TA=70°C	-2.1
Pulsed Drain Current	I <sub>DM</sub>	-8	A
Continuous Source Current(Diode Conduction)	I <sub>S</sub>	-1.4	A
Power Dissipation	P <sub>D</sub>	TA=25°C	1.15
		TA=70°C	0.75
Operating Junction Temperature	T <sub>J</sub>	-55/150	°C
Storage Temperature Range	T <sub>STG</sub>	-55/150	°C
Thermal Resistance-Junction to Ambient	R <sub>θJA</sub>	T ≤ 10sec	52
		Steady State	100



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### ELECTRICAL CHARACTERISTICS

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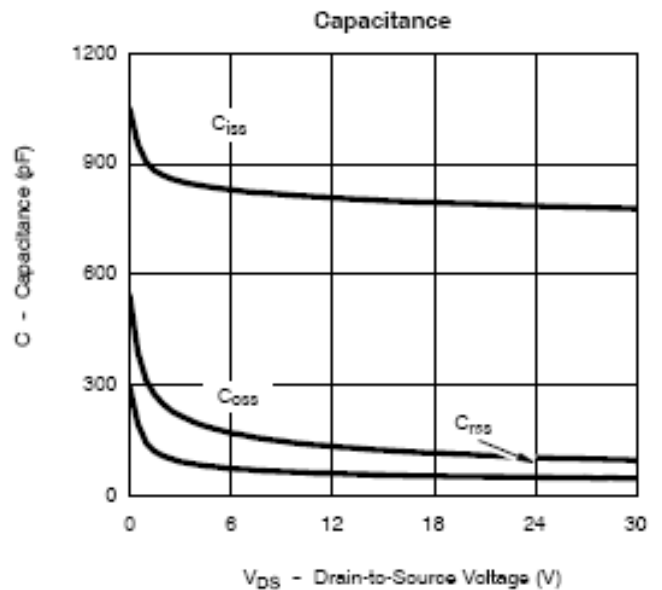
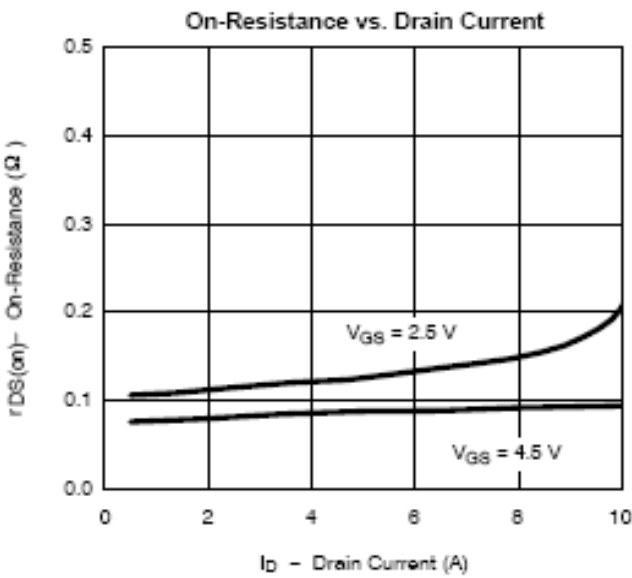
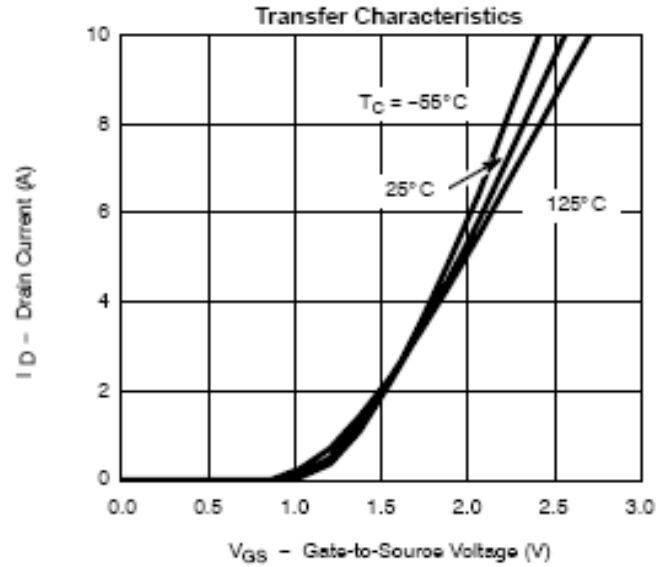
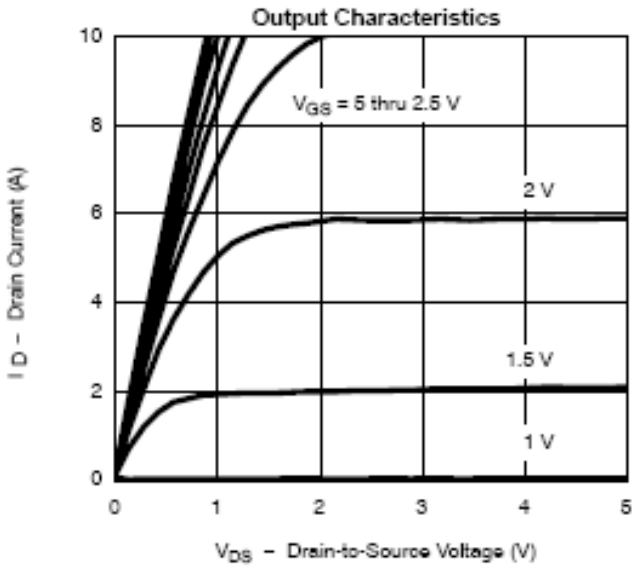
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
<b>Static</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-10\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.4		-1.0	V
Gate Leakage Current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-24V, V_{GS}=0V$			-1	uA
		$V_{DS}=-24V, V_{GS}=0V$ $T_J=55^\circ C$			-10	
On-State Drain Current	$I_{D(on)}$	$V_{DS}=-5V, V_{GS}=-4.5V$	-4			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-2.8A$		0.085	0.105	$\Omega$
		$V_{GS}=-4.5V, I_D=-2.5A$		0.100	0.115	
		$V_{GS}=-2.5V, I_D=-1.5A$		0.135	0.150	
		$V_{GS}=-1.8V, I_D=-1.0A$		0.185	0.215	
Forward Transconductance	$g_{fs}$	$V_{DS}=-10V, I_D=-2.8A$		4.0		S
Diode Forward Voltage	$V_{SD}$	$I_S=-1.2A, V_{GS}=0V$		-0.8	-1.2	V
<b>Dynamic</b>						
Total Gate Charge	$Q_g$	$V_{DS}=-15V, V_{GS}=-4.5V$ $I_D=-2.0A$		5.8		nC
Gate-Source Charge	$Q_{gs}$			0.8		
Gate-Drain Charge	$Q_{gd}$			1.5		
Input Capacitance	$C_{iss}$	$V_{DS}=-15V, V_{GS}=0V$ $f=1MHz$		380		pF
Output Capacitance	$C_{oss}$			55		
Reverse Transfer Capacitance	$C_{rss}$			40		
Turn-On Time	$t_{d(on)}$	$V_{DD}=-15V, R_L=15\Omega$ $I_D=-1.0A, V_{GEN}=-10V$ $R_G=3\Omega$		6		ns
	$t_r$			3.9		
Turn-Off Time	$t_{d(off)}$			40		
	$t_f$			15		



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### TYPICAL CHARACTERISTICS

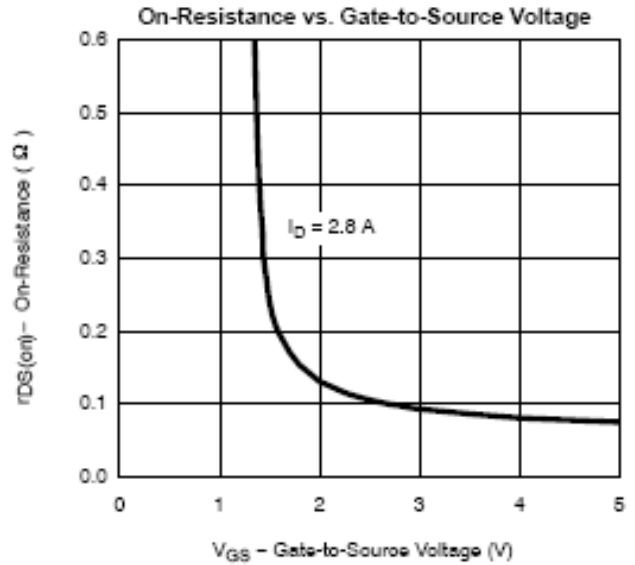
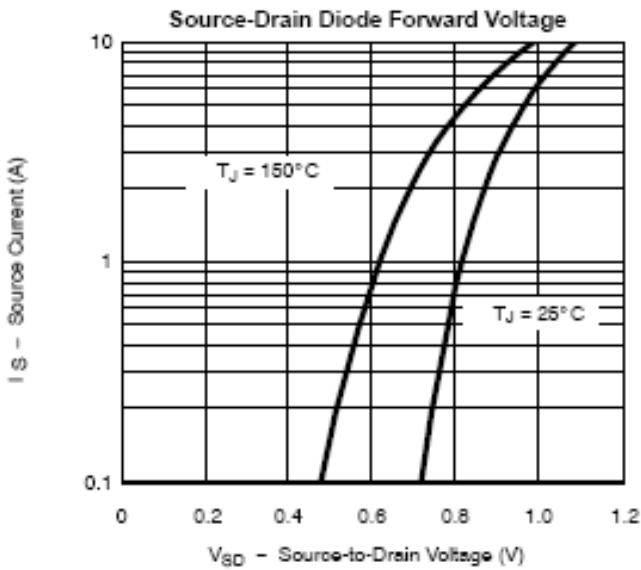
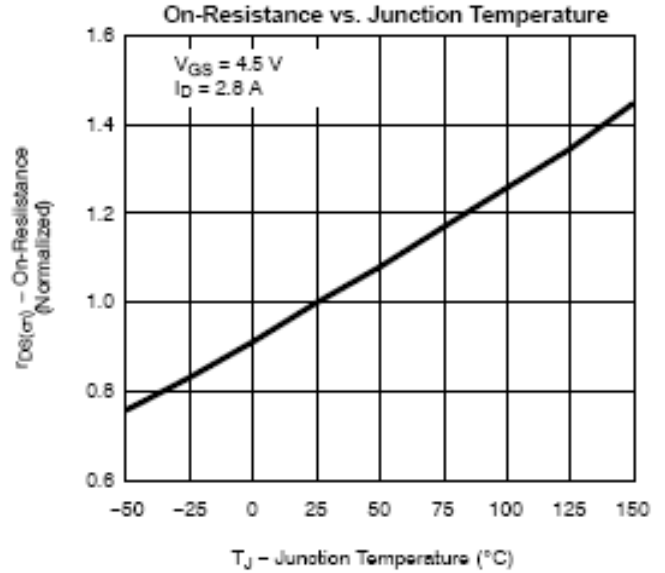
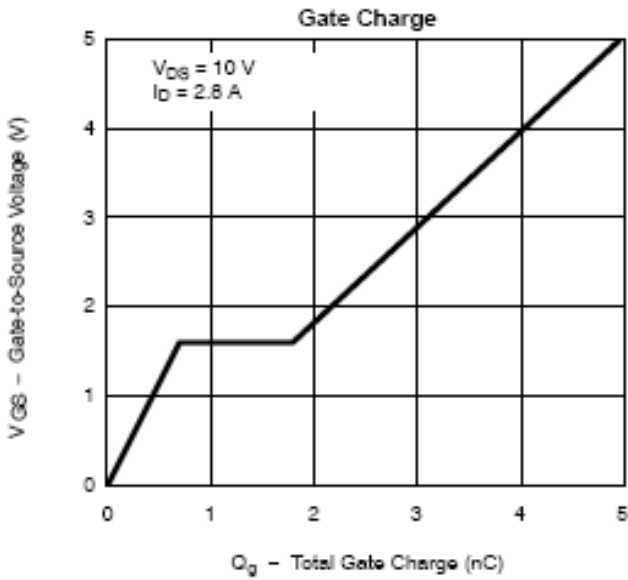




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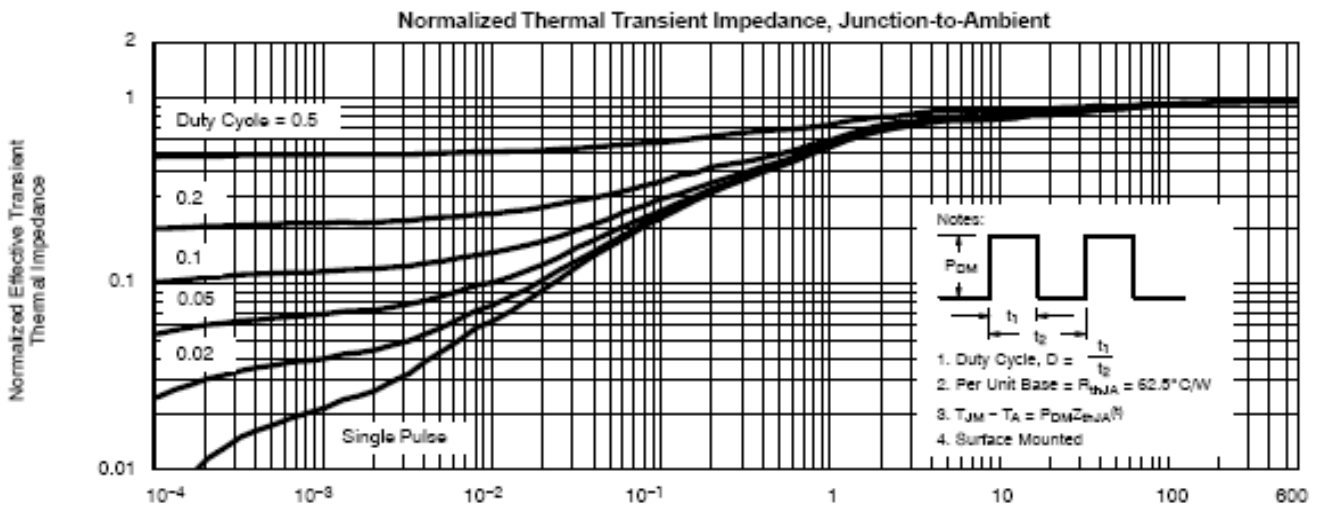
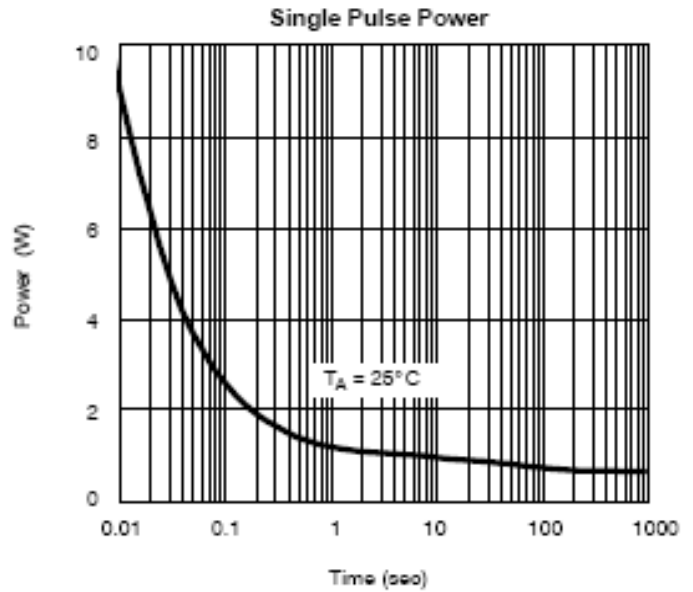
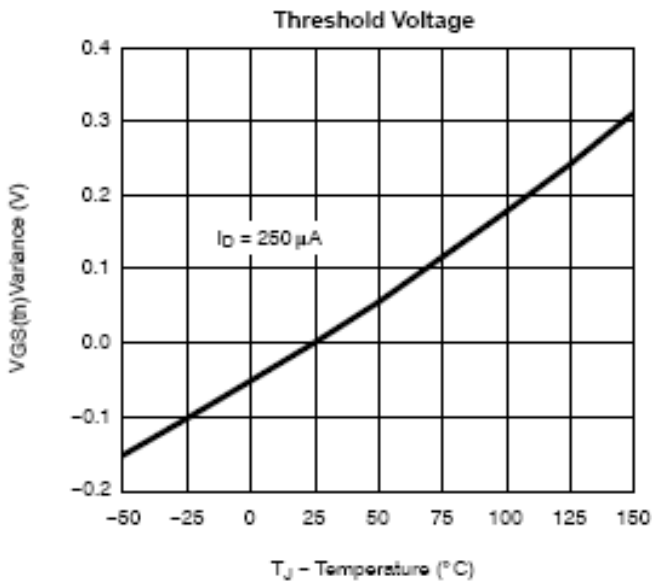




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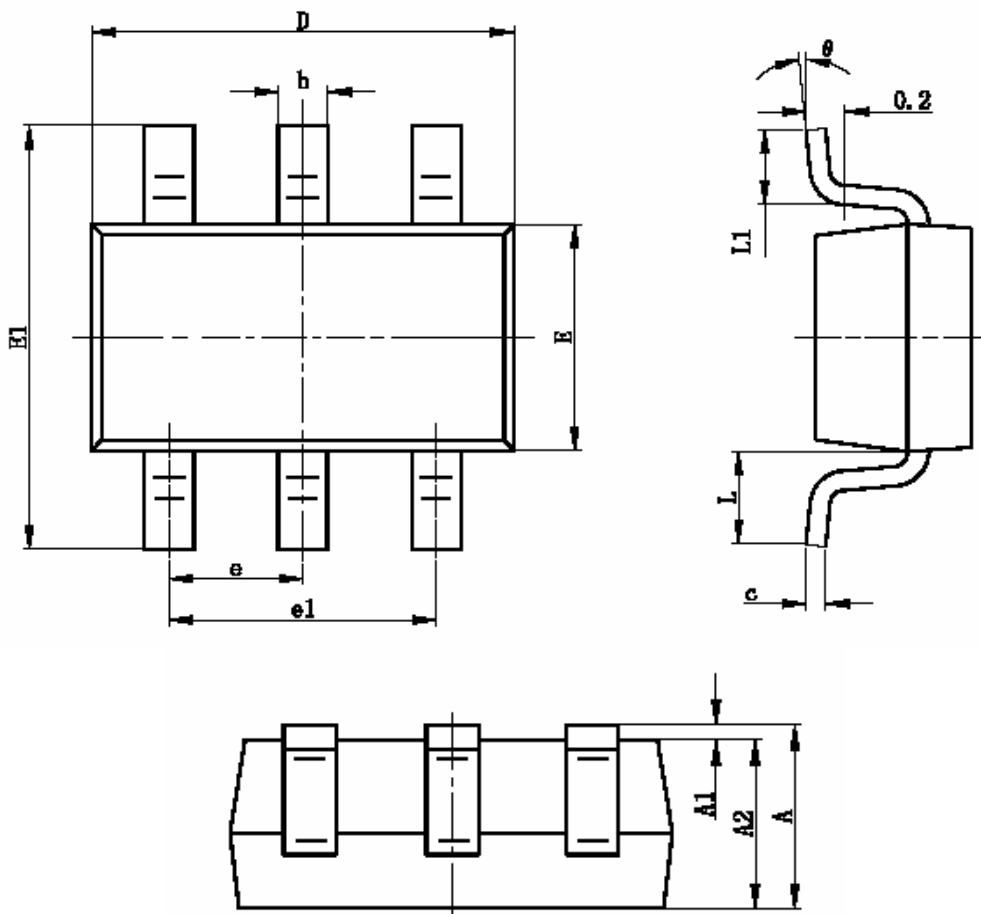




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### SOT-23-6L PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.400	0.012	0.016
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.700REF		0.028REF	
L1	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°



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