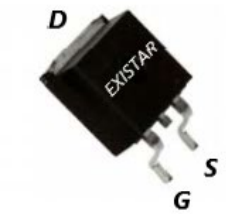
P-Channel 100V MOSFET

E18P100KC

V_{DS} (V)	$R_{DS(on),max}$ (mΩ)	I_D (A)
-100	110@ V_{GS} = -10V	-18

TO252

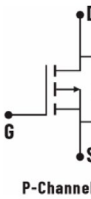


Features

- Trench MOS technology
- Low Rds(on),Low Qg
- Excellent Gate Charge x Rds(ON) Product (FOM)

Applications

- Fast switching



Pb-free
RoHS
COMPLIANT
HALOGEN
FREE

Package and ordering information

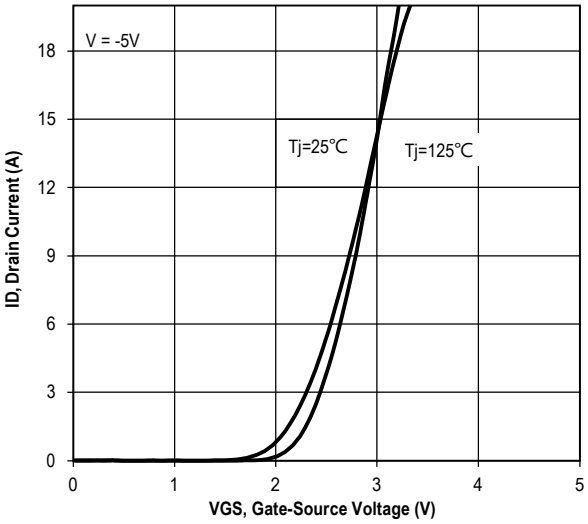
Ordering code	Package	Device code
E18P100KC	TO252	---

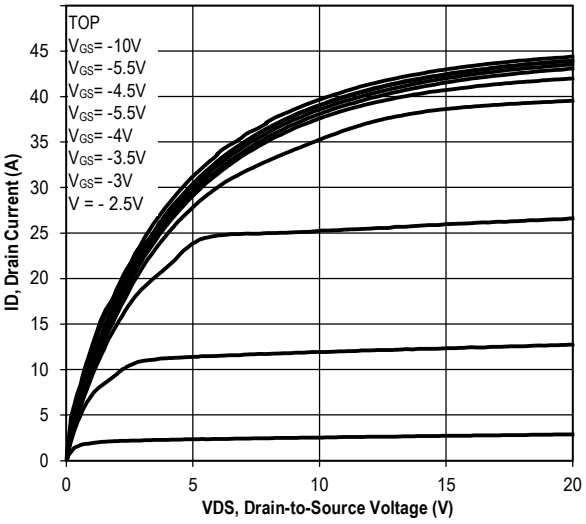
Absolute Maximum Ratings T_A=25°C unless otherwise noted				
Parameter		**Symbol**	**Maximum**	**Units**
Drain-Source Voltage		V_{DS}	-100	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous drain current	TC=25°C	I_D	-18	A
	TC=100°C	I_D	-12	A
Drain Current – Pulsed		I_{DM}	-40	A
Maximum Power Dissipation		P_D	36.7	W
Single pulse avalanche energy		E_{AS}	81	mJ
Junction and Storage Temperature Range		T_J,T_{STG}	-55 To 150	℃

Thermal Characteristics				
Parameter	**Symbol**	**Typ**	**Max**	**Unit**
Thermal Resistance junction-case	$R_{\theta Jc}$		3.4	℃ /W
Thermal Resistance junction-to-Ambient	$R_{\theta JA}$		62	℃ /W

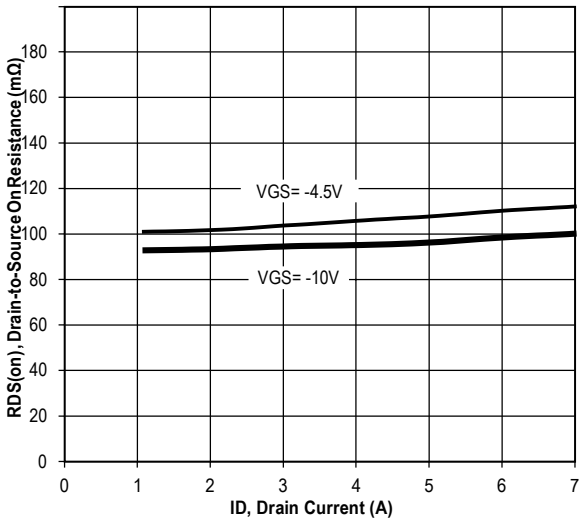
Electrical Characteristics(TJ=25 ℃ unless otherwise noted)						
Symbol	**Parameter**	**Condition**	**Min**	**Typ**	**Max**	**Unit**
STATICPARAME TERS						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0VI $_D$=-250μA	-100			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-80V,V_{GS}=0V			-1	μA
I_{GSS}	Gate-Body Leakage Current	V_{GS}=±20V,V_{DS}=0V			-100	nA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=-250μ A	-1.2	-1.7	-2.5	V
$R_{DS(ON)}$	Drain-Source On-State Resistance	V_{GS}=-10V, I_D =-6A		100	110	mΩ
		V_{GS}=-4.5V,I_D =-5A		110	120	mΩ
gfs	Forward Transconductance	V_{DS} =-5V, I_D =-5A		15		S
DYNAMICPARAMET ERS						
C_{iss}	Input Capacitance	V_{DS}=-50V,V_{GS}=0V, F=1.0MHz		2110		pF
C_{oss}	Output Capacitance			54		pF
C_{rss}	Reverse Transfer Capacitance			1.3		pF
SWITCHINGPARAMETER S						
$t_{d(on)}$	Turn-on Delay Time	V_{DD}=-50V,I_D=-6A, V_{GS}=-10V, R_G=3.3Ω		12		nS
t_r	Turn-on Rise Time			8		nS
$t_{d(off)}$	Turn-Off Delay Time			26		nS
t_f	Turn-Off Fall Time			5		nS
Q_g	Total Gate Charge	V_{DS}=-50V,I_D=-6A, V_{GS}=0到-10V		35		nC
Q_{gs}	Gate-Source Charge			6.6		nC
Q_{gd}	Gate-Drain Charge			4.8		nC
V_{SD}	Diode Forward Voltage	V_{GS}=0V,I_{SD}=-6A			-1.2	V

Typical electrical and thermal characteristics

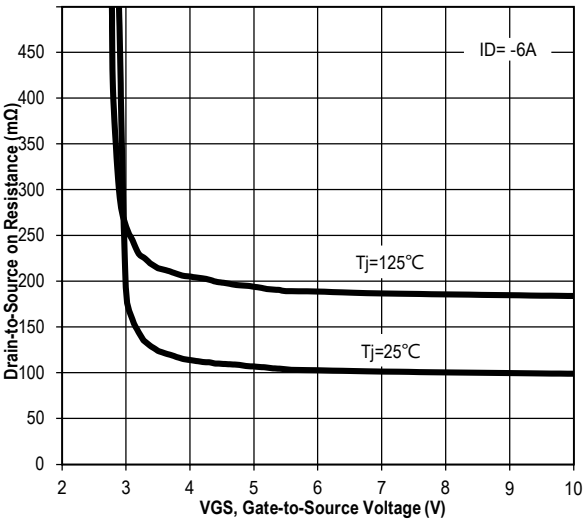




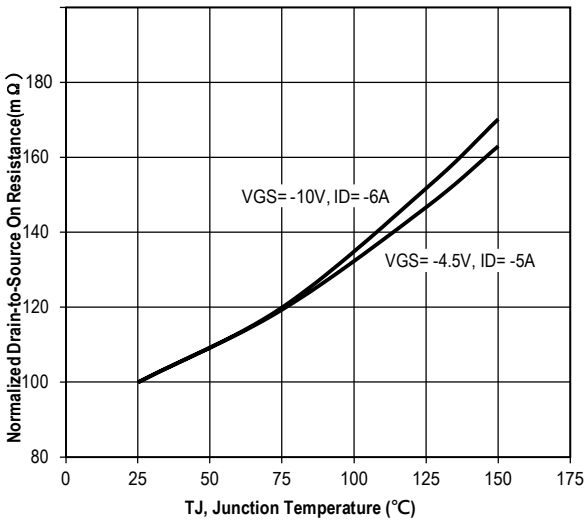
On-Resistance vs. Drain Current and Gate



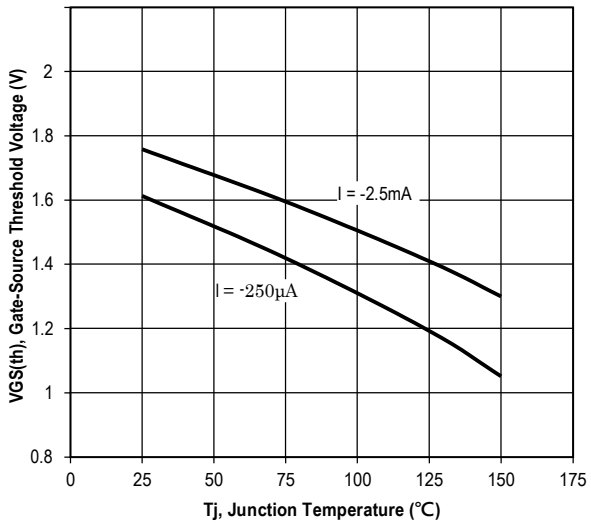
On-Resistance vs. Gate-Source Voltage



On-Resistance vs. Junction Temperature

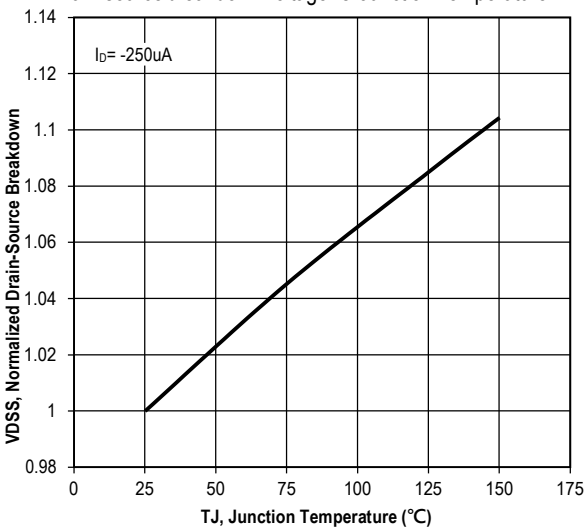


Gate Threshold Voltage

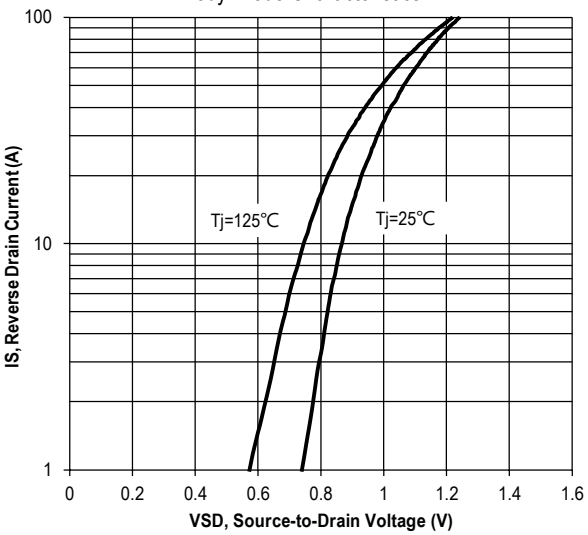


Typical electrical and thermal characteristics

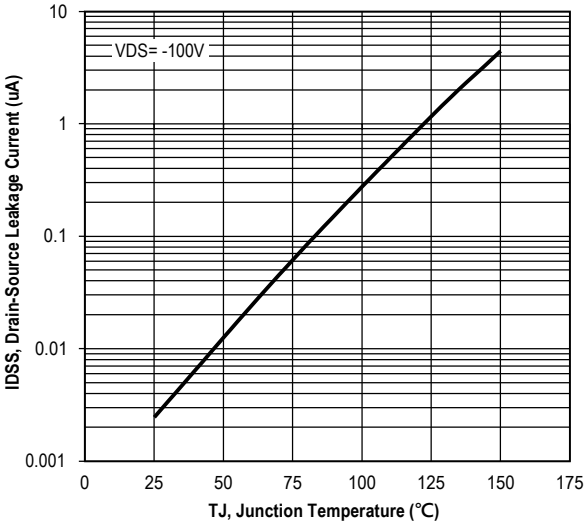
Drain-source breakdown voltage vs. Junction Temperature



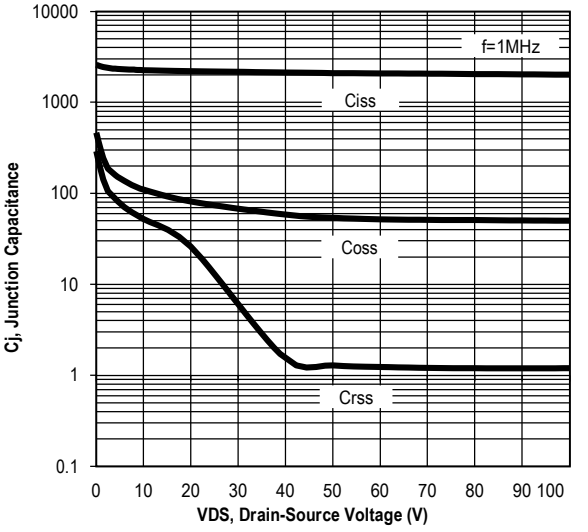
Body-Diode Characteristics



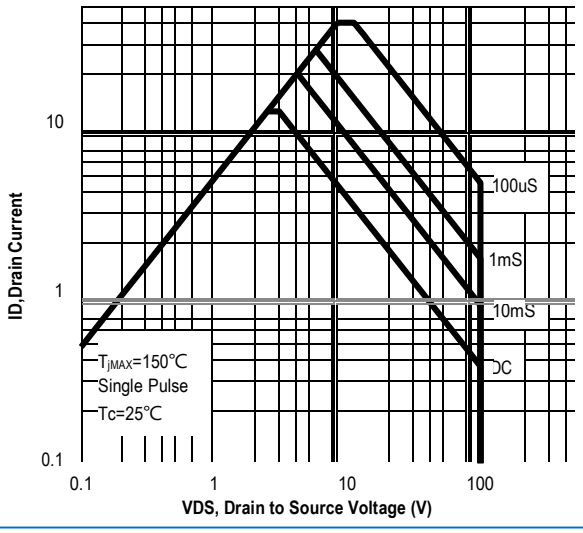
Zero Gate Voltage Drain Current vs. Junction Temperature



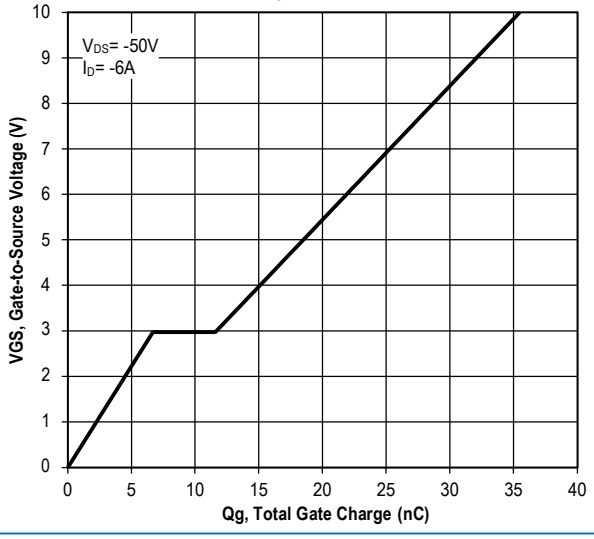
Capacitance vs. Drain to Source Voltage



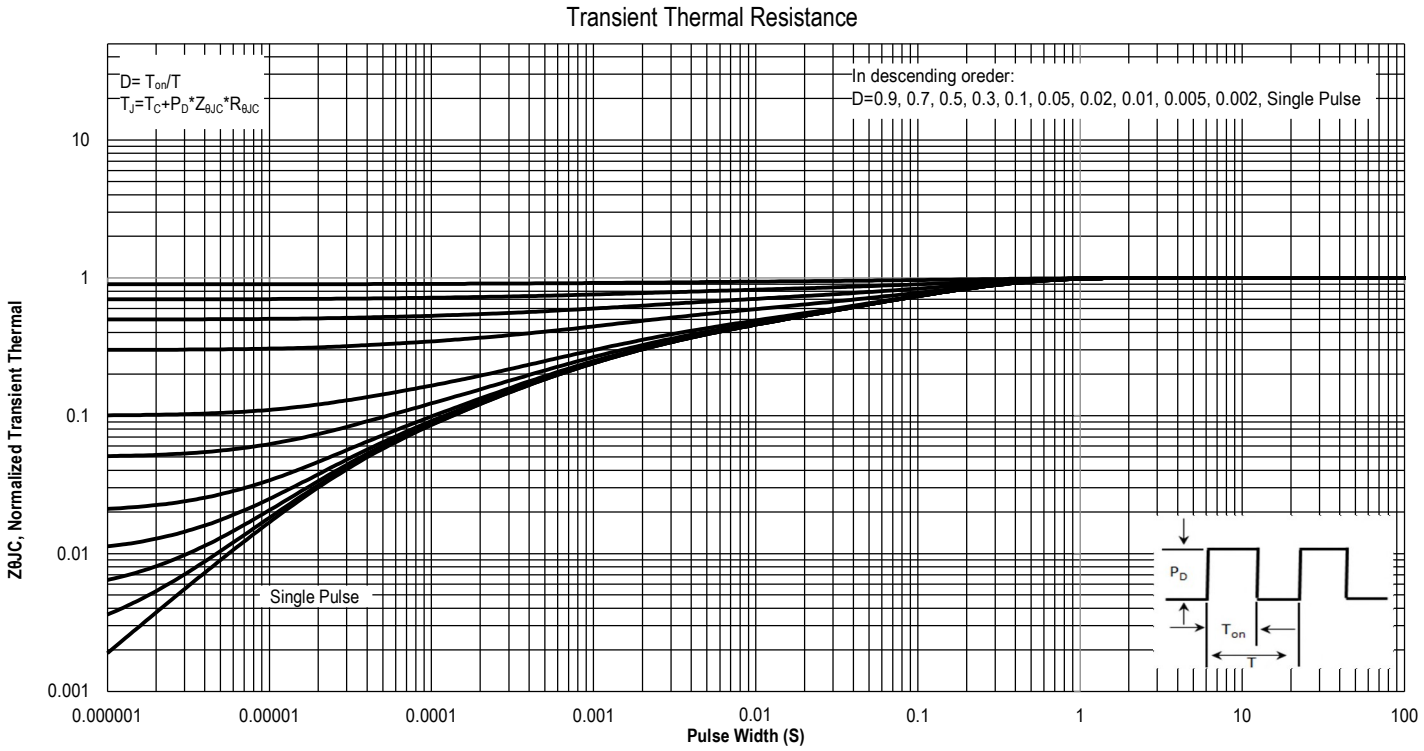
Maximum Forward Biased Safe Operating Area

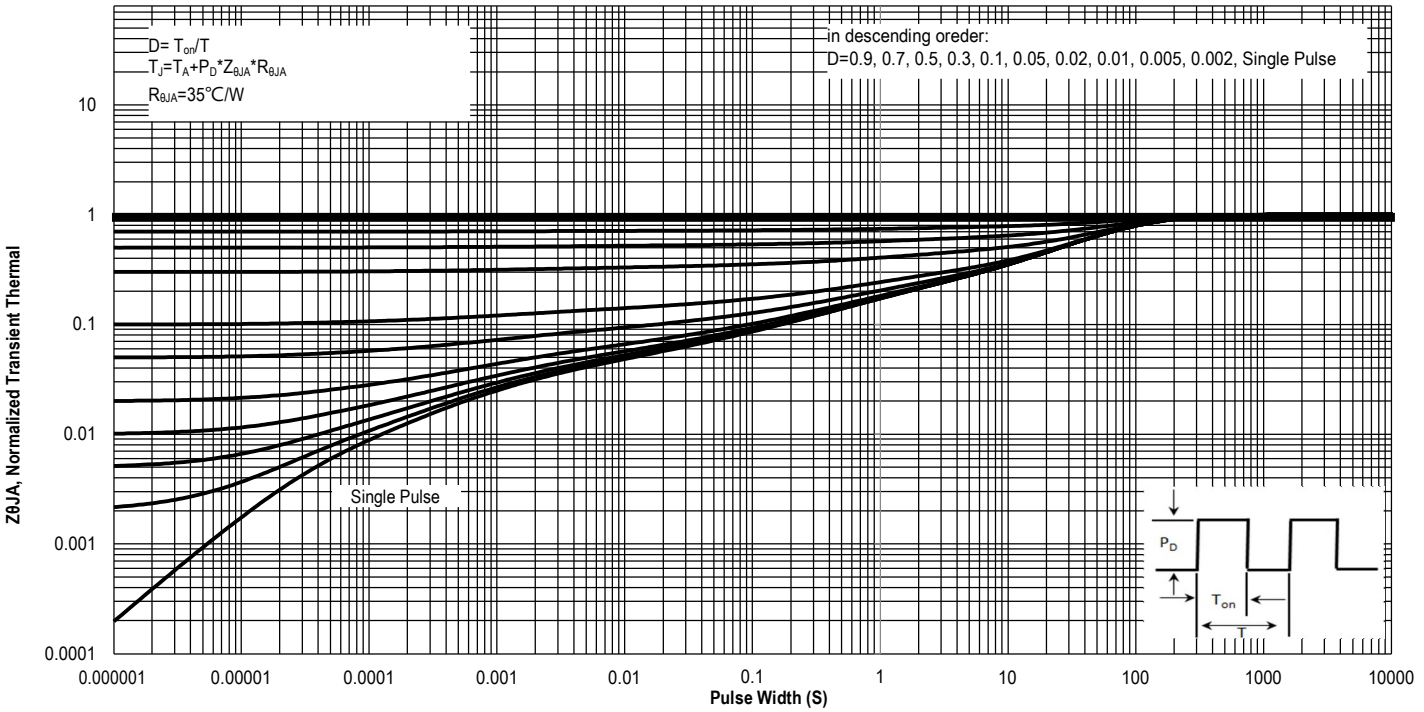


Gate-Charge Characteristics

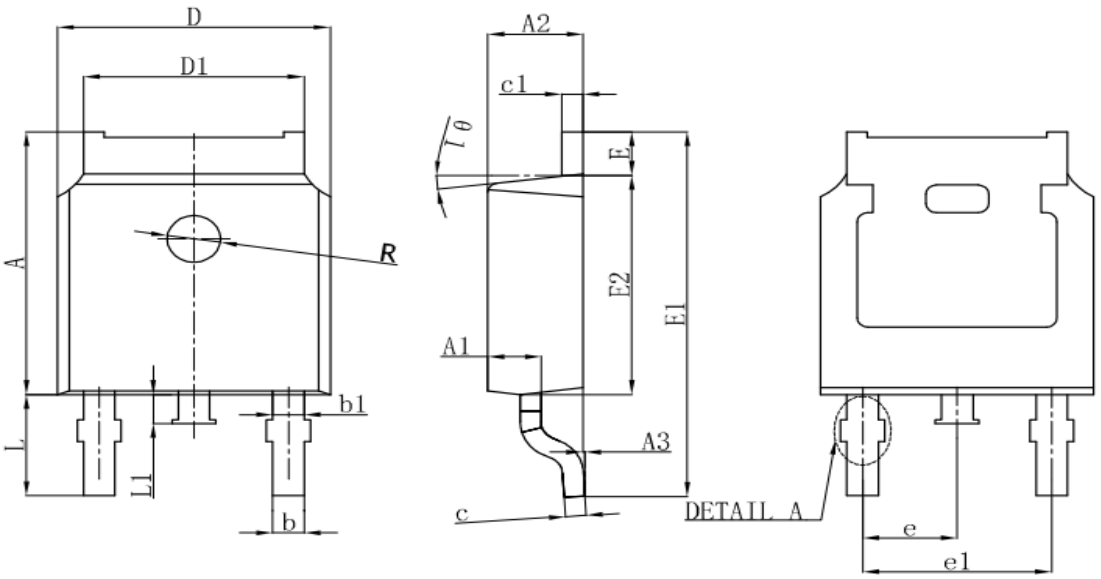


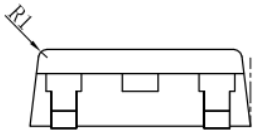
Typical electrical and thermal characteristics

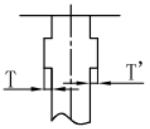




Package outline dimensions







0<=T, T' <=0.12
DETAIL A

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	7.050	7.100	7.150
A1	0.960	1.010	1.060
A2	2.250	2.300	2.350
A3	0.000	0.050	0.100
b		0.760REF.	
b1		1.000REF.	
c		0.508REF.	
c1		0.508REF.	
D	6.550	6.600	6.650
D1	5.220	5.320	5.420
E	0.950	1.000	1.050
E1	9.700	9.900	10.100
E2	6.050	6.100	6.150
e		2.286BSC	
e1		4.572REF.	
L	2.650	2.800	2.950
L1	0.700	0.800	0.900
θ1		7° REF.	
R		0.250REF.	

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